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BULLETIN

OF THE

New York State Museum

VOL. 5. No. 24

October 1899

SUPPLEMENT

TO THE

14TH REPORT OF THE STATE ENTOMOLOGIST, 1898

MEMORIAL

OF

LIFE AND ENTOMOLOGIC WORK

OF

Joseph Albert Lintner, Ph.D.
State entomologist, 1874-98

BY

EPHRIAM PORTER FELT, D. Sc.
State entomologist

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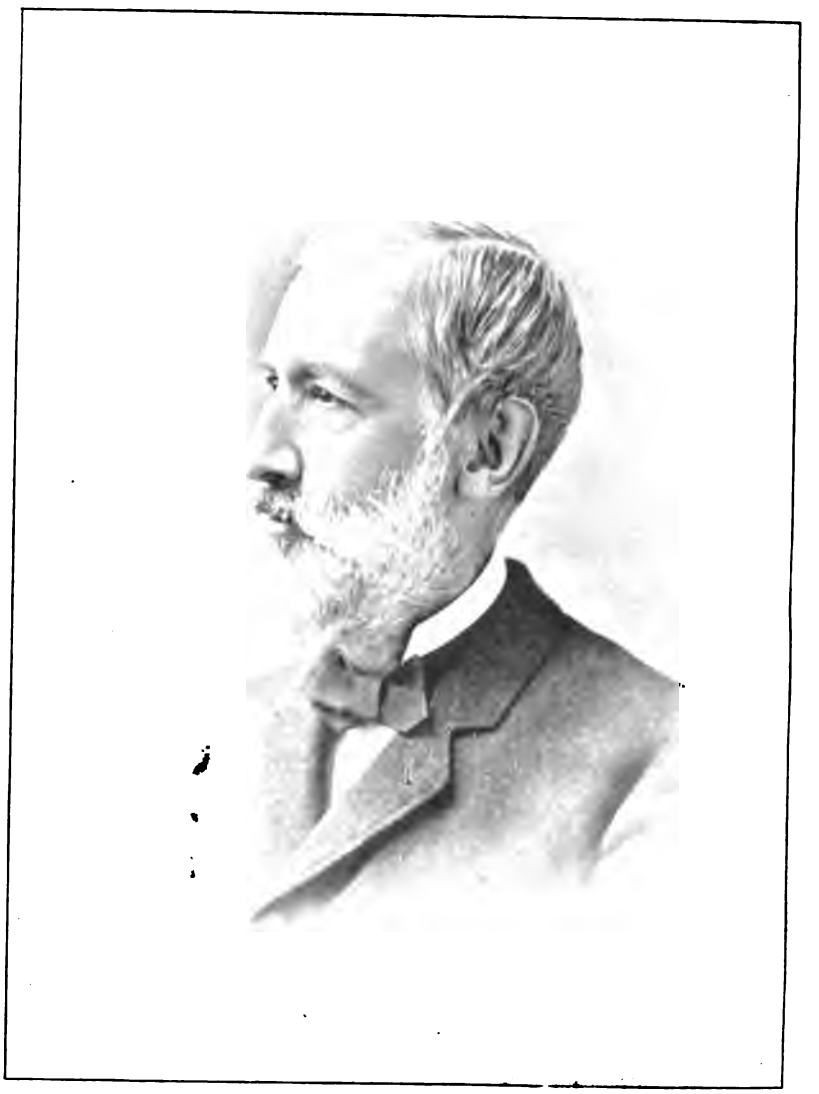

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BULLETIN

OF THE

New York State Museum

FREDERICK J. H. MERRILL, *Director*

VOL. 5 No. 24

May 1899

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JOSEPH ALBERT LINTNER

In the sudden death of this prominent entomologist at Rome, Italy, on May 5, 1898, the scientific world sustained a great loss. Joseph Albert Lintner, Ph. D., was born in Schoharie, N. Y., Feb. 8, 1822, of German parentage. He attended Jefferson academy and was graduated from the Schoharie academy in 1837. For 10 years he was in business in New York city, and at the same time continued his studies under the Mercantile library association, also contributing scientific articles to the *New York tribune*. Returning to Schoharie in 1848, he engaged anew in business till 1860, when he removed to Utica and there manufactured woolen goods for some years. His scientific studies were continued unremittingly. His large collection of insects was begun in 1853 and in 1862 his first article on entomology was published. In 1868 he became zoological assistant in the state museum, and was put in charge of the entomologic work in 1874. He was appointed state entomologist by Governor Cornell in 1880, a position held till his death, and in 1883 was made by the regents a member of the scientific staff of the state museum.

This long and faithful service in his chosen field made him a valued and respected leader among economic entomologists. The last 36 years of his life were devoted almost entirely to entomology, and he wrote during that time over 900 independent articles, besides his 13 reports and the four numbers of *Entomological contributions*. In 1871 he began to contribute articles on economic entomology to the *Cultivator and country gentleman*, a leading agricultural paper now known as the *Country gentleman*, and was its entomological editor during the last 25 years. He has also written many notices for a number of other agricultural and horticultural papers. Although his publications were numerous and varied, it was their writer's ambition to make his communications of practical value to all. It was his delight to include something new or of more than ordinary interest in every notice of an insect. For the past 18 years he was widely known as a most earnest and conscientious state entomologist. His reports, replete with valuable and practical information, are enduring monuments to their author. In simplicity of language, dignity of expression, conciseness and thoroughness of treatment, they are models.

The high appreciation won from his colaborers is strikingly shown in the following extract[a] from an address delivered in 1894 before the Association of economic entomologists by the president, Dr L. O. Howard,

[a] *Insect life*. 1894. 7:68

now chief of the division of entomology, of the United States department of agriculture:

The movement which resulted in the passage of this law[a] was started by the regents of the University of the State of New York at their annual meeting in 1877, and the person appointed to fill the office was Dr J. A. Lintner, a well-known worker in entomology, who, up to that time, had been connected with the state museum of natural history. Dr Lintner has held office continuously since 1881. He brought to bear upon his duties a ripe experience and a mind trained in scientific methods. He has published nine reports, the last one covering the year 1892, and only recently distributed. These reports are in many respects models. The great care and thoroughness of the author have hardly been equalled by any other writer upon economic entomology. The form of the reports is most admirable, and the account of each insect forms almost invariably a complete compendium of our knowledge concerning it down to the date of publication. His accounts are also arranged in the most convenient form for reference, a full bibliography precedes the consideration of each species, and the frequent subheadings enable the most practical use of the report. The reports are replete with sound and ingenious practical suggestions, and are written in a straightforward, simple style, which possesses great literary merit. They abound in illustrations, and are made available by most complete indices and tables of contents. Aside from these reports, Dr Lintner has published a great deal in the newspapers, particularly the *Country gentleman*, on the subject of economic entomology, and another valuable feature of his reports is the comprehensive list which he publishes each year of his unofficial writings.

Without the magnificent opportunities our universities are offering today, this life shows in the highest degree the results of patient effort supplemented by untiring perseverance. Although prohibited by circumstances from devoting his whole time to scientific pursuits till late in life, his great love for nature enabled him to attain one of the highest positions in his chosen work. In 1884 the honorary degree of doctor of philosophy was conferred on him by the regents of the University of the State of New York. He was president of the Entomological club of the American association for the advancement of science and the Association of economic entomologists, two years each, and was president of the department of natural science of the Albany institute from 1879 till his death. He was elected to membership not only in learned societies in this country, but many of those abroad were proud to enroll his name on their books, as may be seen by the appended list of memberships held at the time of his decease. A short time before his death he was granted a six months' leave of absence by the regents in recognition of his long and faithful services.

[a] Laws of 1881, ch. 377. The original appointment was made by Governor Cornell in 1880, under authority of ch. 549 of the laws of that year.

Modest and unassuming, gentle, yet never yielding to imposition, kind and loved by all, the name of Joseph Albert Lintner shines with a luster that places it beside those of Harris, Fitch, Walsh, LeBaron and Riley.

MEMBERSHIPS IN LEARNED SOCIETIES HELD BY J. A. LINTNER

American entomological society, Philadelphia, Pa.
Corresponding member: elected, Nov. 10, 1862.

Albany institute, Albany, N. Y.
Resident member: elected, Nov. 2, 1869.

West Virginia historical society, Morgantown, W. Va.
Corresponding member: elected, Dec. 30, 1869.

Entomological society of Ontario, Canada. London, Ont.
Member since 1872.[a]

Lyceum of natural history of the city of New York: Now, New York academy of sciences, New York, N. Y.
Corresponding member: elected, Feb. 27, 1872.

Buffalo society of natural sciences, Buffalo, N. Y.
Corresponding member: elected, Mar. 2, 1872.

Cambridge entomological club, Cambridge, Mass.
Honorary member: elected, Aug. 10, 1875.

Dana natural history society: Albany, N. Y.
Honorary member.

Academy of natural sciences, Davenport, Iowa.
Corresponding member: elected, Ap. 27, 1877.

American association for the advancement of science, Salem, Mass.
Member: elected, Aug. 21, 1873; Fellow: elected, 1874.

Société entomologique de Belgique, Brussells, Belgium.
Member effectif: elected, Aug. 4, 1877.

Oneida historical society, Utica, N. Y.
Corresponding member: elected, July 1, 1879.

Meadville society of natural history, Meadville, Pa.
Corresponding member: elected, July 2, 1880.

New York entomological club, New York, N. Y.
Corresponding member: elected, Nov. 15, 1880.

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a The society has no record accessible which indicates the date of election or the character of the membership, though since 1888 he had been regarded as an honorary member.

Musée royal d'histoire naturelle de Belge, Brussells, Belgium.
Corresponding member: elected, July 30, 1877.

Société imperiale des naturalistes de Moscou, Moscow, Russia.
Honorary member: elected, Nov. 20, 1886.

Linnaean scientific association of New Jersey state normal school.
Honorary member: elected, March 1887.

Société entomologique de France, Paris, France.
Member effectif: elected, Nov. 9, 1887.

Kansas state horticultural society, Lawrence, Kans.
Honorary member: elected, Dec. 14, 1887.

New York state agricultural society, Albany, N. Y.
Consulting entomologist: elected, January 1889.

Trinity historical society, Dallas, Texas.
Honorary member: elected, Jan. 14, 1891.

Association of economic entomologists.
Active member since its organization in 1889.

LIST OF NEW SPECIES DESCRIBED BY J. A. LINTNER

This list is arranged systematically and cites also the place and date of the original description.

Lepidoptera

Apatura [*? Chlorippe*[a]] *cocles*.....Papilio. 1884. [b]4: 141–42.
Lycaena lotis.....Entomological contributions.[c] 1878. 4: 57–58.
Kricogonia lanice.....Papilio. 1884. 4: 138–39.
Pamphila osceola.....Entomological contributions. 1878. 4: 58–59.
Nisoniades [*Thanaos*] *icelus*.....Entomological contributions. 1872. 1: 30–32.
Nisoniades [*? Thanaos*] *somnus*....Papilio. 1881. 1: 73–74.
Nisoniades [*Thanaos*] *lucilius*.....Entomological contributions. 1872. 1: 32–34.
Nisoniades [*Thanaos*] *ausonius*....Entomological contributions. 1872. 1: 34–36.

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a The preferred generic name has been inserted in brackets.

b Volume and page references are separated by a colon, e. g., 1: 286-93 means volume 1, pages 286 to 293.

c Entomological contributions, 1, 2, 3 and 4 were published respectively in the 23d, 24th, 26th and 30th *Annual reports* of the New York state museum of natural history.

Nisoniades [*? Thanaos*] *afranius* ..Entomological contributions. 1878. 4: 63–64.

Nisoniades [*? Thanaos*] *petronius*..Papilio. 1881. 1: 70–71.

Nisoniades [*? Thanaos*] *naevius* ..Papilio. 1881. 1: 69–70.

Nisoniades [*? Thanaos*] *pacuvius* ..Entomological contributions. 1878. 4: 60–61.

Eudamus [*Thorybes*] *electra* .....Canadian entomologist. 1881. 13: 63–65.

Sphinx insolita.....Papilio. 1884. 4: 145–46.

Ellema pineum.....Entomological contributions. 1872. 1: 37–39.

Cerura occidentalis.....Entomological contributions. 1878. 4: 82–83.

Anisota [*Sphingicampa*] *bisecta*....Canadian entomologist. 1879. 11: 10–12.

Cossus centerensis.....Canadian entomologist. 1877. 9: 129–30.

Cossus undosus.....Entomological contributions. 1878. 4: 131–33.

Xylina unimoda.....Entomological contributions. 1878. 4: 96–97.

Xylina lepida.....Entomological contributions. 1878. 4: 95–96.

Calocampa nupera.....Bulletin Buffalo society natural sciences. 1874. 2: 188–89.

Cucullia laetifica.....Check list of the noctuidae of America, north of Mexico. 1875. p. 24–25.

Cucullia speyeri.....Entomological contributions. 1874. 3: 168–74.

Cucullia serraticornis.....Entomological contributions. 1874. 3: 174–76.

Plusia culta.....Insects of New York. 2d Report. 1885. p. 97.

Hypocala hilli.....Entomological contributions. 1878. 4: 105–7.

Catocala pretiosa [var. of *C. crataegi* Saund.] Canadian entomologist. 1876. 8: 121–22.

Acidalia [*Eois*] *lacteola*.....Entomological contributions. 1878. 4: 112.

Diptera

Phora agarici.....Insects of New York. 10th Report. 1895. p. 401, 402.

Chortophila [*Pegomyia*] *betarum*....Insects of New York. 1st Report. 1882. p. 208–9.

Pegomyia vicina.....Insects of New York. 1st Report. 1882. p. 209–11.

Sciara caldaria.....Insects of New York. 10th Report. 1895. p. 398.

Sciara coprophila.....Insects of New York. 10th Report. 1895. p. 394–96.

Diplosis cucumeris.....Insects of New York. 11th Report. 1896. p. 166–67.

Diplosis setigera.....Insects of New York. 11th Report. 1896. p. 168–69.

Cecidomyia balsamicola. .....Insects of New York. 4th Report. 1888. p. 60–63.

Cecidomyia trifolii [*leguminicola*]...Canadian entomologist. 1879. 11: 44–45.

Thysanura

Achorutes diversiceps.....Insects of New York. 11th Report. 1896. p. 253–54.

Myriapoda

Leptodesmus falcatus.....Insects of New York. 12th Report. 1897. p. 300–1.

BIBLIOGRAPHY OF THE ENTOMOLOGIC PUBLICATIONS

OF

Joseph Albert Lintner, Ph. D.

The highly commendable practice of the late Dr J. A. Lintner in giving lists of his papers together with place, date of publication and summary of contents, has reduced to a minimum the labor of preparing this bibliography of his writings. In bringing these titles together, it has been my aim to render the greatest value with the least repetition. The extended summaries included in the original lists have been abridged, only the names of the more important species being retained.

The synonymy indicated is based largely on that adopted by Dr Lintner in his index of reports 1–10, which was published in 1896.

Metamorphoses of *Ceratomia quadricornis* Harris [*amyntor* Hübn.] (Entomological society of Philadelphia. Proceedings. 1862. 1: 286–93) Also, separate, with cover and half title page, December 1862.

Extended account of its life history, describing the egg, larval stages, pupa, pupal cell and its construction.

Notes on some of the diurnal lepidoptera of the state of New York, with descriptions of their larvae and chrysalides. (Entomological society of Philadelphia. Proceedings. 1864. 3: 50–64) Also, separate, with cover and title page, May 1864.

The following species are noticed: *Papilio turnus* Linn.[a] [*Jasoniades glaucus* Linn.], *Papilio asterias* Fabr. [*polyxenes* Fabr.], *Papilio* [*Euphoeades*] *troilus* Linn., *Pieris oleracea* Harris, *Colias* [*Eurymus*] *philodice* Godt., *Grapta* [*Polygonia*] *comma* Harris, *Grapta* [*Polygonia*] *faunus* Edw., *Grapta* [*Polygonia*] *progne* Fabr., *Grapta* [*Eugonia*] *j-album* Godt., *Vanessa* [*Euvanessa*] *antiopa* Linn., *Vanessa* [*Aglais*] *milberti* Godt., *Limenitis* [*Basilarchia*] *arthemis* Drury, *Limenitis disippus* Godt. [*Basilarchia archippus* Cram.], *Pyrameis* [*Vanessa*] *huntera* Sm.-Abb. Also notes of comparative abundance and capture of some of the diurnals.

Description of the larva of *Dryocampa* [*Anisota*] *rubicunda* Fabr. (Entomological society of Philadelphia. Proceedings. 1864. 3: 426–27)

Mature larva taken from sugar maple is described.

Notes on some Sphingidae of the state of New York, with descriptions of their larvae and pupae. (Entomological society of Philadelphia. Proceedings. 1864. 3: 645–72) Also, separate, with cover and title page. December 1864.

The immature stages of the following species are noticed: *Sesia* [*Hemaris*] *thysbe* Fabr., *Sphinx quinquemaculata* Steph. [*Phlegethontius celeus* Hübn.], *Sphinx* [*Phlegethontius*] *cingulata* Fabr., *Sphinx* ——— ? [*eremitus* Hübn.], *Sphinx cinerea* Harr. [*chersis* Hübn.], *Sphinx kalmia* Sm.-Abb., *Sphinx drupiferarum* Sm.-Abb., *Philampelus satellitia* Harr. [*pandorus* Hübn.], *Philampelus achemon* Drury, *Deilephila chamaenerii* Harr. *Deilephila lineata* Fabr., *Darapsa* [*Ampelophaga*] *myron* Cram., *Ceratomia quadricornis* Harr. [*amyntor* Hübn.], *Smerinthus* [*Paonias*] *excaecatus* Sm.-Abb., *Smerinthus* ——— ? [*Paonias excaecatus* Sm.-Abb.], *Smerinthus* [*Cressonia*] *juglandis* Sm.-Abb., *Ellema harrisii*

[a] In the bibliography the names used in the text are given and the preferred terms inserted in brackets.

Clem., Sphinx larvae on poplar [*Pheosia dimidiata* H.-S.]; list of undescribed larvae of N. Y. state Sphingidae.

A hundred fold return for a trifling expenditure. (Utica morning herald. May 11, 1866)

Brief article on the value of entomologic study, and recommending the *Practical entomologist* to the public.

Description of a new species of *Grapta*, and Notes on *G. interrogationis*. (American entomological society. Transactions. 1869 2: 313–19) Also, separate, May 1869.

Description of *Grapta umbrosa* [*Polygonia interrogationis* var.]

First observation of *Pieris rapae* in New York. (Sunday morning press [Albany]. Aug. 7, 1870, p. 4)

Notice of the capture of this cabbage butterfly in Albany.

'The poisonous cabbage worm.' (Argus [Albany] Oct. 20, 1870)

Refuting the statement that the larva of the cabbage butterfly, *Pieris rapae*, is poisonous.

The recently imported cabbage butterfly—*Pieris rapae*. [Read before the Albany institute, Nov. 2, 1870] (Argus [Albany] Nov. 2, 1870. Albany institute. Proceedings. 1873. 1: 199–201)

General account of its introduction, life history and probable spread in this country.

On *Graptae interrogationis* and *fabricii* Edw. [*interrogationis* var.]. (American entomological society. Transactions. December 1870. 3: 197–204) Separate with cover and title page.

Discussion of *Grapta* [*Polygonia*] *interrogationis* Fabr, and its varieties.

Spectrum [*Diapheromera*] *femoratum*. (Country gentleman. Aug. 13, 1871. 36: 552[34a])

Identification of this 'walking stick' from Columbia, Missouri.

Dryocampa [*Basilona*] *imperialis* Drury. (Country gentleman. Sep. 27, 1871. 36: 600[26])

Description of the moth and note on its transformations and habits.

Pieris rapae parasites. (American naturalist. 1871. 5: 742; Canadian entomologist. November 1871. 3: 197)

Notice of an attack by *Pteromalus*, probably *P. puparum*, on the larvae of the cabbage butterfly.

Cabbage butterfly. (Country gentleman. Nov. 16, 1871. 36: 728[16])

Pieris rapae in Delaware, and discovery of its parasite, *Pteromalus puparum*, in Albany, N. Y.

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a The superior figures point to the column and the exact place on the page in ninths; e. g. 552[34] means page 552, column three, four ninths of the way down.

Cut worms in corn. (Country gentleman. May 30, 1872. 37:339[21])

Notice of young cut worms in corn, probably those of *Mamestra* [*Xylophasia*] *arctica* Boisd.

Apple twig borer on pear trees. (Country gentleman. June 13, 1872. 37:375[21])

General notice of *Amphicerus bicaudatus* Say.

Spindle worms. (Country gentleman. June 13, 1872. 37:376[18])

Caterpillars attacking corn are thought to be a species of *Gortyna* [*?Hydroecia*].

Hessian fly. (Country gentleman. June 13, 1872. 37:376[26])

Insect is identified from Franklin co., Ohio.

Bark louse. (Country gentleman. July 11, 1872. 37:440[28])

Notice of a species of *Coccus* infesting a thorn hedge in Windsor, Canada.

Owl beetle. (Country gentleman. July 18, 1872. 37:456[14])

Description and habits of *Alaus oculatus* Linn.

Revision of some of the American butterflies. (American naturalist. 1872. 6:354–59)

Review of a paper under the above title published by Samuel H. Scudder, in the report of the Peabody academy of science, 1871, p. 24–82.

Entomological contributions—no. 1 1872. p. 5–90, pl. 7–8. New York state cabinet of natural history. 23d annual report, 1869. p. 135–222.

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Ellema pineum described.

List of Sphingidae occurring in the state of New York 40

40 species are recorded and their principal synonyms given.

List of butterflies occurring in the state of New York 44

Embraces 113 species, with notes on those of rare occurrence, and mention of 13 others which may be presumed to occur in the state.

Calendar of butterflies for the year 1869 48

Contains notes on 63 species as they appeared successively, from *Thecla* [*Incisalia*] *irus* Godt., on April 27, to *Pamphila* [*Anthomaster*] *leonardus* Harris on Aug. 20.

Dates of collection of New York Heterocera 56

Contains dates of collection of 94 species during the year 1869, and of 200 species in prior years.

List of North American Lepidoptera contained in 'Species Général des Lépidoptères' by A. Guenée 66

Embraces above 600 species giving habitat and notes on the same.

Notes on *Cucullia intermedia* Speyer 81

Notes on the life history of this species and also on *C. convexipennis*.

Entomological contributions—no. 2. 1872. p. 5–66. New York state museum of natural history. 24th annual report, 1870. 1872. p. 109–70.

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On the larva and imago of *Sesia* [*Hemaris*] *diffinis* Harris..... 5
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Coccus insect on the pine. (Country gentleman. Aug. 21, 1873. 38 : 535[14])

Features of *Coccus* [*Chermes*] *pinicorticis* Fitch, its operations, and remedies.

Entomological contributions—no 3. May 1874. 3: 117–92. New York state museum of natural history. 26th annual report, 1872 1874. p. 117–92, fig. 1–14.

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[Also in *Insects of Missouri*, 5th report, 1873, p. 38–40, and in Dr Riley's Directions for collecting and preserving insects, p. 101–4, published by the Smithsonian institution, in 1892]

Describes the construction of several insect cases.

Three lined leaf beetle. (Country gentleman. July 23, 1874. 39: 471[18])

Brief general notice of *Lema trilineata* Oliv.

Soldier bug. (Country gentleman. July 23, 1874. 39: 471[17])

Arma [*Podisus*] *spinosa* Dallas, is noticed as an enemy of the Colorado potato beetle.

A timothy eater. (Country gentleman. July 23, 1874. 39: 471[22])

Subsequently proved to be the larva of *Leucania* species.

Raspberry borer. (Country gentleman. July 30, 1874. 39: 487[16])

Description of *Oberea tripunctata* Fabr. [*bimaculata* Oliv.] and its girdling the canes of the raspberry.

Insect on the potato. (Country gentleman. July 30, 1874. 39: 488[17])

Notice of *Cosmopepla carnifex* injuring potato vines.

Joint worm. (Country gentleman. Sep. 10, 1874. 39: 584[17])

Galls and transformations of *Isosoma hordei* Harris are described.

Cimex [*Acanthia*] *lectularius*. (Country gentleman. Sep. 24, 1874. 39: 615[43])

General account of the bed bug, *Acanthia lectularia* Linn.

Maple leaf cutter. (Country gentleman. Oct. 1, 1874. 39: 631[14])

General account of *Ornix* [*Incurvaria*] *acerifoliella* Fitch destroying maple forests in Pittsford, Vt.

Cattle tick. (Country gentleman. Oct. 1, 1874. 39: 631[22])

Appearance and habits of *Ixodes* [*Boophilus*] *boris* Riley.

Oil beetle. (Country gentleman. Oct. 15, 1874. 39: 663[43])

Short notice of the habits and vesicating properties of *Meloë angusticollis* Say.

Mr Otto Meske's collection of Lepidoptera. (Albany evening times. Oct. 27, 1874. Albany institute. Transactions, 1876. 8: 215–20)

Notice of the valuable features of this collection.

Description of a new species of *Calocampa*. (Buffalo society of natural sciences. Bulletin 2. October 1874. p. 188–89)

Calocampa nupera is described as a new species.

Record of collections of New York Heterocera for the year 1873. (New York state museum of natural history. 27th annual report, 1875. p. 144–48)

Lists 135 species, with localities and dates of capture.

New apple worm. (Albany evening times. Ap. 12, 1875. 19: 2, col. 3–4; New York state museum of natural history. 30th report, 1878. p. 117–21, with additional matter, p. 121–26; Entomological contributions. June 1878. 4: 5–14)

General account of *Mermis acuminata* Leidy with special reference to its being a parasite of *Carpocapsa pomonella* larvae.

New apple worm. (Country gentleman. Ap. 29, 1875. 40: 262[62]-63[11])

Mermis sp. [*acuminata*]. a parasite on *Carpocapsa pomonella*.

Insect on the cabbage. (Country gentleman. June 24, 1875. 40: 392[17])

Identification and notice of *Murgantia histrionica*, from Charlotteville, Va.

Blister beetles. (Country gentleman. July 1, 1875. 40: 407[13])

Account of *Lytta murina* [*Macrobasis unicolor* Kirby] on potato vines.

Cocoons on oats. (Country gentleman. July 8, 1875. 40: 424[21])

Cocoons are of some parasite which could not be determined.

Worm on wheat. (Country gentleman. July 15, 1875. 40: 440[28])

Caterpillar is that of *Leucania harreyi* [*albilinea* Hubn.].

Insects on potatoes. (Country gentleman. July 22, 1875. 40: 472[28])

Notice of an attack on potatoes by *Lygus lineolaris* [*pratensis* Linn.].

On *Lycaena neglecta* Edw. [*Cyaniris pseudargiolus* var.]. (Canadian entomologist. July 1875. 7: 122-23)

Reasons for differing from Mr W. H. Edwards in his belief of the identity of *L. neglecta* with *L. lucia* [vars. of *Cyaniris pseudargiolus*] based on observations made at Center, N. Y.

On *Orthosia ralla* Gr.-Rob (Canadian entomologist. July 1875. 7: 128-29)

Orthosia ralla is not identical with *O. ferruginoides* Guen. [*bicolorago* Guen. var.]

Carpocapsa deshaiziana [*saltitans*] in seed-vessels of Euphorbia. [Read before the Albany institute Oct. 5, 1875] (Argus [Albany] Oct. 11, 1875; Albany institute. Proceedings. 1878. 2: 264-67)

General account of *Carpocapsa deshaiziana* [*saltitans*] and notice of a Podurid [*Achorutes diversiceps* Lintn.] at Center, N. Y.

Cucullia laetifica Lintn. (*n. sp.*) (Check-list of the Noctuidae of America, north of Mexico, by A. R. Grote, November 1875. 1: 24-25)

This species is described from a specimen from Bastrop, Texas, in the collection of Mr O. Meske.

List of Catocalas occurring in the state of New York. (New York state museum of natural history. 27th annual report, 1875. p. 137-40)

Contains 43 species, with references and synonyms.

List of new species of New York Lepidoptera published in 1873. (New York state museum of natural history. 27th annual report. 1875. p. 141-43)

Contains 80 species, mainly by A. R. Grote, in the *Noctuidae* and *Deltoidae* [the latter family united with the former by recent writers].

On *Catocala pretiosa* n. sp. [*C. crataegi* Saund. var.] (Canadian entomologist. July 1876. 8: 121–22)

Described from examples taken at sugar in Schenectady, N. Y., and compared with *C. polygama* Guen. [*C. grynea* Cram.]

Destructive caterpillar. (Country gentleman. Aug. 10, 1876. 41:504[37])

Caterpillar eating apple leaves in a young orchard at Manlius, N. Y., is probably *Notodonta* [*Schizura*] *concinna* Sm.-Abb.

Cabbage eating insect. (Country gentleman. Sep. 7, 1876. 41:565[37])

Brief account of *Strachia* [*Murgantia*] *histrionica* Hahn as a cabbage pest at Nashville, Tenn.

Grape seed fly. (Country gentlemen. Sep. 21, 1876. 41 : 599[14])

Isosoma [*Evoxysoma*] *vitis* Saund. is the insect infesting grapes received from New Jersey. Its operations are described and remedies for its attack given.

New carpet bug pest—*Anthrenus scrophulariae*. [Read before the Albany institute, Oct. 17, 1876] (Argus [Albany] Oct. 21, 1876; Schenectady daily union. Oct. 21, 1876; Buffalo courier. Oct. 29, 1876; Albany institute. Proceedings, 1878. 2 : 313–15)

Notice of the introduction and spread of the carpet beetle, *Anthrenus scrophulariae* Linn.

Insects in flour. (Country gentleman. Oct. 26, 1876. 41 : 683[35])

Wheat flour swarming with *Tyroglyphus farinae* [*siro* Linn.] was received, and a brief account of the mite is given.

Scale insects. (Country gentleman. Feb. 1, 1877. 42 : 69[23])

The following on pear and apple trees are noticed briefly: *Aspidiotus harrisii* Walsh [*Chionaspis furfurus* Fitch] and *Aspidiotus conchiformis* Gmel. [*Mytilaspis pomorum* Bouché].

Bark lice. (Country gentleman. Mar. 8, 1877. 42 : 151[41])

Notice of Harris' bark louse [*Chionaspis furfurus* Fitch] and description of the oyster shell bark louse.

Apple tree insects. (Country gentleman. Ap. 12, 1877. 42 : 235[43])

Oviposition of some tree hoppers, and of the flower cricket, *Oecanthus niveus* DeGeer, is identified.

Insects of 1876 — 1. (Country gentleman May 31, 1877. 42 : 347[23])

Army worm, *Leucania unipuncta* Haw., Colorado potato beetle and grape seed fly, *Isosoma* [*Evoxysoma*] *vitis*, are treated of to some extent.

Insects of 1876 — 2. The new carpet bug. (Country gentleman. June 7, 1877. 42 : 363[21])

Notice of *Anthrenus scrophulariae* and a new potato insect.

Insect on peach trees. (Country gentleman. June 7, 1877. 42 : 363[36])

Unknown caterpillar infesting the twigs of peach trees [probably *Anarsia lineatella* Zeller] can not be identified.

Parasitic insect. (Country gentleman. July 12, 1877. 42 : 448[21])
Young hemipterous insect from Cecil co., Md., are probably *Prionotus* [*Prionodus*] *cristatus* Linn.

Gooseberry fruit worm. (Country gentleman. July 12, 1877. 42 : 448[26])
Brief notice of *Pempelia* [*Zophodia*] *grossulariae* Pack. infesting gooseberries.

Tree hoppers. (Country gentleman. July 19, 1877. 42 : 463[42])
Identifies the egg deposit of one of the tree hoppers [probably *Ceresa bubalus*] in apple twigs.

Eastern grasshopper. (Country gentleman. July 26, 1877. 42 : 475[42])
Destructive work of *Caloptenus* [*Melanoplus*] *femur-rubrum* DeGeer in Virginia.

Blistering beetles. (Country gentleman. July 26, 1877. 42 : 476[27])
Brief notice of *Epicauta cinerea* Foerst and *Lytta* [*Cantharis*] *nuttalli* Say, on potatoes and beans.

On a new species of Cossus. (Canadian entomologist. July 1877. 9:129–30)
Description of *Cossus centerensis* Lintn.

Carpet bug. (Country gentleman. Aug. 2, 1877. 42:491[27])
General account of *Anthrenus scrophulariae* Linn.

Grape vine hog caterpillar. (Country gentleman. Sep. 6, 1877. 42:571[32])
Short notice of *Darapsa* [*Ampelophaga*] *myron* Cram

Pernicious corn insect—the Indian Cetonia. (Country gentleman. Sep. 13, 1877. 42:585[38])
Injuries by *Cetonia* [*Euphoria*] *inda* Linn. to corn and fruit.

Aphis in wheat. (Country gentleman. Dec. 6, 1877. 42:779[21])
Aphis infesting the stalks of young wheat can not be *Aphis avenae* Fitch [*Nectarophora granaria*].

Pea weevil. (Country gentleman. Dec. 6, 1877. 42:780[25])
Bruchus scutellaris Fabr. [*chinensis* Linn] is identified as the weevil infesting peas in Virginia.

Hessian fly. (Country gentleman. Jan. 24, 1878. 43:55[35])
Gives a brief account of *Cecidomyia destructor* Say.

Aquatic worm. (Country gentleman. Jan. 31, 1878. 43:72[35])
'Animalculae' sent from a well in Winsted, Ct., are described briefly but can not be identified.

Grain aphis. (Country gentleman. Ap. 11, 1878. 43:232[24])
Aphis avenae [*Nectarophora granaria*] is identified from Bellbuckle, Tenn.

Insect for name. (Country gentleman. Ap. 18, 1878. 43: 248[22])

Flat oval eggs of *Phylloptera* [*Amblycorypha*] *oblongifolia* on grapevine are identified.

Insects for name. (Country gentleman. Ap. 25, 1878. 43: 264[25])

Beetles plowed up in hundreds are the common June bug, *Lachnosterna fusca* Frohl. and *Phyllophaga pilosicollis* Knoch [*Lachnosterna tristis* Fabr.]

Raspberry cane borer. (Country gentleman. May 23, 1878. 43: 328[16])

Girdling of raspberry canes is referred to *Oberea tripunctata* [*bimaculata* Oliv.].

Two beetles. (Country gentleman. May 30, 1878. 43: 344[23])

Brief notice of *Chrysomela trimaculata* [*Doryphora cliricollis* Kirby] and *Coptocycla guttata* Oliv. [*signifera* Herbst].

Insects for name. (Country gentleman. June 13, 1878. 43: 376[24])

Bibio albipennis, Dermestes lardarius, Aphis avenae [*Nectarophora granaria*] are identified.

Peach twig moth. (Country gentleman. June 27, 1878. 43: 407[19])

General account of *Anarsia lineatella* Zeller.

Grape vine coccus. (Country gentleman. July 4, 1878. 43: 423[26])

Brief mention of a scale on grape vines.

Insects in Illinois. (Country gentleman July 4, 1878. 43: 425[28])

Insects sent from Champaign co., Ill., are identified as *Lecanium acericola* [probably an erroneous reference of *Pulvinaria innumerabilis* Rathv.].

Apple bark and pear blight beetles. (Country gentleman. July 18, 1878. 43: 455[14])

Notice of *Xyleborus pyri* Peck [*dispar* Fabr.] and *Crypturgus* [*Monarthrum*] *mali* Fitch.

Cockscomb elm gall. (Country gentleman. July 18, 1878. 43: 455[25])

Brief account of *Byrsocripta* [*Glyphina*] *ulmicola* Fitch.

Apple tree insect. (Country gentleman. July 25, 1878. 43: 471[12])

Larvae in crevices of a limb, apparently hymenopterous, can not be identified.

Maple bark scale insect—*Lecanium acericorticis* [*Pulvinaria innumerabilis*]. (Country gentleman. July 25, 1878. 43: 471[17])

General account of this insect, giving previous history, habits and remedies.

Preface and notes to the genera of the Hesperidae of the European faunal region, by Dr Speyer. (Canadian entomologist. July, August and September 1878. 10: 121, 122, 123–24, 125, 126, 146, 151, 163, 169)

Introduction and corrections to the above paper.

Phylloxera. (Country gentleman. Aug. 1, 1878. 43: 488[23])

Brief notice of *Phyllozera vastatrix* [*vitifoliae*].

Burrowing beetle — *Cebrio bicolor.* (Country gentleman. Aug. 8, 1878., 43: 507[35])

Beetle is identified and its habits given.

Ugly bee slayer. (Country gentleman. Aug. 29, 1878. 43: 551[14])

Account of *Phymata erosa* [*wolfii*] capturing butterflies, bees, etc.

Squash vine borer. (Country gentleman. Aug. 29, 1878. 43: 571[24])

Notice of *Melittia cucurbitae* Har. [*s atyriniformis* Hübn.] attacking squash vines.

Phylloxera. (Country gentleman. Aug. 29, 1878. 43: 551[34])

Galls on grape leaves are identified as those of *Phylloxera vastatrix* [*vitifoliae*].

New carpet beetle—*Anthrenus scrophulariae.* (Entomological contributions. June 1878. 4: 15–23, figure. American naturalist. August 1878. 12: 536–44. New York state museum of natural history. 30th annual report. 1878. p. 127–35)

General account of the discovery and life history of this insect, with remedies.

Report on the insects and other animal forms of Caledonia creek, N. Y. (New York fishery commission. 10th annual report, 1877 and 1878. p. 12–36, pl. 1–2. Also, separate, with title page and cover, p. 1–25, pl. 1–2, August 1878)

Extended report of the forms of life inhabiting the waters of the creek with special reference to their value as food for fishes.

Annual address of the president [of the Entomological club of the American association for the advancement of science, at St Louis, Mo., Aug. 20, 1878]. (Canadian entomologist. September 1878. 10: 171–76)

Review of progress and the present status of entomology.

Turnip flea beetle. (Country gentleman. Sep. 12, 1878. 43: 583[24])

Larvae destroying turnips are identified as those of *Haltica striolata* [*Phyllotreta vittata* Fabr.].

Carpet beetle. (Country gentleman. Sep. 12, 1878. 43: 583[28])

Brief general notice of *Anthrenus scrophulariae.*

Harlequin cabbage bug. (Country gentleman. Sep. 26, 1878. 43: 616[16])

An insect destroying cabbages, *Murgantia histrionica* Hahn, is noticed briefly.

Cabbage aphis. (Country gentleman. Nov. 14, 1878. 43: 727[18])

Aphis attacking turnips, *Aphis brassicae* Linn., is indentified and remedies indicated.

Economic entomology during the year 1877. (New York state agricultural society. 37th annual report. 1878. p. 37–39. — Transactions. 1877–82. 1884. 33:17–20)

Importance of economic entomology with notices of *Nephopteryx* [*Pinipestis*] *zimmermani* and *Cossus centerensis*.

Contribution to the economical entomology of the year 1876. (New York state agricultural society. Transactions. 1872–76. 1878. 32:236–43) [Paper presented at the annual meeting of the state agricultural society, Jan. 17, 1877] (Country gentleman. May 31, June 7, 1877. 47: 347[23], 363[21])

Notices army worm, *Leucania unipuncta*, Colorado potato beetle, grape seed fly, new carpet beetle, *Anthrenus scrophulariae*, and an unknown insect tunneling potatoes.

Description of a new species of *Anisota*. (Canadian entomologist. January 1879. 11 : 10–12)

Anisota [*Sphingicampa*] *bisecta* is described.

Peach tree borer. (Country gentleman. Mar. 27, 1879. 44 : 199[26])

Notice of the peach tree borer and plum curculio.

Clover seed fly — a new insect pest. (American naturalist. March 1879. 13 : 190)

Notice of a paper treating of *Cecidomyia trifolii* [*leguminicola*].

Clover seed fly — a new insect pest. (Canadian entomologist. March 1879. 11 : 44–45 ; Entomological society of Ontario. Annual report. 1879. p. 28–30)

Account and description of *Cecidomyia trifolii* [*leguminicola*].

Poduridae (spring tails) in a cistern. (Country gentleman. May 22, 1879. 44 : 327[21])

Notice of *Lipura fimetaria* [*Aphorura armata*] and an allied species [probably *Achorutes diversiceps*] observed at Center, N. Y.

Two spotted lady bug. (Country gentleman. June 26, 1879. 44:407[19])

Beetle mistaken for the carpet bug, is *Coccinella bimaculata* [*Adalia bipunctata* Linn.]

Strawberry borers. (Country gentleman. June 26, 1879. 44 : 407[24])

'Worms' infesting strawberry roots are identified as the strawberry crown borer, *Anarsia lineatella*.

Golden tortoise beetle. (Country gentleman. June 26, 1879. 44: 407[26])

Beetles on potato vines, *Cassida aurichalcea* Fabr. [*Coptocycla bicolor* Fabr.] are identified.

Grape vine galls. (Country gentleman. June 26, 1879. 44 : 407[27])

Galls on grape vine are those of *Lasioptera vitis* Osten Sacken.

Entomological contributions — no. 4. New York state museum of natural history. 30th report. 1879. p. 117–254. Separate, in advance of the report, with title page, table of contents, index and cover, June 1878. 144 p.

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26 Notes on some Lepidoptera (*Grapta* [*Polygonia*] *satyrus* Edw. *Lycaena* [*Cyaniris*] *pseudargiolus* Boisd.-Lec., *Agrotis nigricans* var. *maizii* Fitch [*Carneades tessellata* Harr.], *Agrotis* [*Carneades*] *perpolita* Morr., *Agrotis cupida* Grote [*Rhynchagrotis anchocelioides* Guen.], *Agrotis* [*Rhynchagrotis*] *brunneicollis* Grote, *Cucullia intermedia* Speyer, *Xylina thaxteri* Grote var., *lambda*, *Hypena humuli* Fitch, *Depressaria lecontella* Clem., et al 121

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27 On some species of Cossus (*Cossus reticulatus* n. sp. [*Prionoxystus robiniae* Peck], *C. undosus* n. sp., *C. plagiatus* Walk. [*Prionoxystus robiniae*], *C. crepera* Harr. [*Prionoxystus robiniae*], *C. querciperda* Fitch, [*Prionoxystus macmurtrei* Guer.]) 130

Army worm—*Leucania unipuncta* Haw (Country gentleman. July 3, 1879. 44: 422[44]–23[19])

General account of the insect, giving description, life history and parasites.

Corn curculio—*Sphenophorus zeae* Walsh [*sculptilis* Uhler]. (Country gentleman. July 10, 1879. 44: 439[21].)

Brief general notice of this insect.

Clover seed fly. (Country gentleman. July 17, 1879. 44: 455[13])

Cecidomyia leguminciola proposed, as *C. trifolii* is preoccupied.

Grape vine bark louse—*Lecanium vitis* Linn. [*Pulvinaria innumerabilis* Rathv.] (Country gentleman. July 17, 1879. 44: 455[18])

Scale insect on grape vine is identified and briefly noticed.

Striped blister beetle. (Country gentleman. July 31, 1879. 44: 487[16])

Epicauta vittata Fabr. is briefly treated as a potato pest.

Inquiries about ants and beetles. (Country gentleman. July 31, 1879. 44: 487[27])

The following are noticed: *Formica novaeboracensis* Fitch [*Camponotus herculaneus* Linn.], *Coptocycla aurichalcea* Fabr. [*bicolor* Fabr.] and *Melanotus fissilis* Say.

On *Cecidomyia leguminicola.* (Canadian entomologist. July 1879. 11: 121–24)

C. leguminicola proposed for *C. trifolii* which is preoccupied.

Stalk borer — *Gortyna* [*Hydroecia*] *nitela* Guen. (Country gentleman. Aug. 7, 1879. 44: 503[28])

General notice of this insect, giving its life history and remedies.

Two carpet bugs. (Country gentleman. Aug. 7, 1879. 44: 503[42])

Larvae from beneath carpets are *Anthrenus scrophulariae* Linn. and *Attagenus megatoma* Fabr. [*piceus* Oliv.]

Wheat stem maggot—*Meromyza americana* Fitch. (Country gentleman. Aug. 21, 1879. 44: 535[32])

General notice of the insect and its allies.

Carpet beetle. (Country gentleman. Aug. 21, 1879. 44: 535[49])

Anthrenus scrophulariae received from Poughkeepsie, N. Y.

Earth worm—*Lumbricus terrestris* Linn. (Country gentleman. Sep. 4, 1879. 44: 567[26])

Gives life history and habits so far as known.

Annual address of the president [of the Entomological club of the American association for the advancement of science, at Saratoga, N. Y., Aug. 26, 1879]. (Canadian entomologist. September 1879. 11: 163–75; Entomological society of Ontario. Annual report, 1879. p. 11–18; American entomologist. January, February 1880. 3: 16–19, 30–34)

Mainly a notice of the principal publications and investigations in entomology during the preceding year.

Two pests of the clover plant. (Country gentleman. Oct. 2, 1879. 44: 631[35])

Notice of the injuries to clover by *Hylesinus* [*Hylastes*] *trifolii* Mull, and *Cecidomyia leguminicola* Lintn.

Apple tree insect. (Country gentleman. Oct. 9, 1879. 44: 648[18])

Coleopterous larva on an apple tree can not be identified.

Coccus on peach trees. (Country gentleman. Oct. 23, 1879. 44: 679[27])

Short notice of *Lecanium persicae* Modeer [*nigrofasciatum* Perg.]

Grape insect. (Country gentleman. Oct. 23, 1879. 44: 679[31])

Brief mention of a caterpillar (*Procris* [*Harrisina*] *americana* Guer. See below)

Dung beetle. (Country gentleman. Oct. 30, 1879. 44: 695[46])

Brief account of the tumbler bug, *Aphodius inquinatus* Herbst, and allied species.

Five spotted sphinx. (Country gentleman. Oct. 30, 1879. 44: 696[16])

Tobacco worm, *Sphinx quinquemaculata* Haw. [*Phlegethontius celeus* Hübn.] identified and its habits given.

Apple tree insects. (Country gentleman. Nov. 6, 1879. 44: 711[35])

Treats of two larvae infesting apple trees, one is probably a *Chrysobothris*.

Grape insect—*Procris* [*Harrisina*] *americana* Guer. (Country gentleman. Nov. 6, 1879. 44: 711[45])

Brief general account.

Coccus on peach trees—*Lecanium persicae* [*nigrofasciatum* Perg.] (Country gentleman. Nov. 6, 1879. 44: 711[46])

Identified and synonymy given.

Fitch biological collection of the New York state agricultural society. (Psyche. September—December 1879. 2: 275–76)

Describes the arrangement and character of the collection made by Dr Fitch and states that the Homoptera alone have escaped destruction.

Pickled fruit fly—*Drosophila ampelophila.* (Country gentleman, Jan. 1, 1880. 45:7[38])

Life history and habits with notice of other species.

Rat tail larva of a syrphus fly. (Country gentleman. Jan. 22, 1880. 45:55[17])

Larvae taken from decaying mold are probably those of *Merodon bardus* Pack. [*Mallota posticata* Fabr.].

Report on some injurious insects of the year 1878. [Address delivered at the annual meeting of the New York state agricultural society, Jan. 22, 1879] (New York state agricultural society. 38th annual report. 1880. p. 61–72—Separate, with title page and cover, p. 14 [January] 1880. Also, in (New York state agricultural society, Transactions. 1877–82. 1884. 33:97–112)

Importance of the study of insects; *Cecidomyia trifolii* n. sp. [*leguminicola*] is described, *Anthrenus scrophulariae, Pulex irritans, Euryomia* [*Euphoria*] *inda* and *Anarsia lineatella* are noticed.

Poduridae (spring tails) in a well. (Country gentleman. Feb. 12, 1880. 45:103[22])

Species identified as *Lipura fimetaria* [*Aphorura armata*] and briefly noticed.

New wheat pest. (Country gentleman. Feb. 19, 1880. 45:120[29])

Cicadula [*Limotettix*] *exitiosa* is recorded as an insect injurious to wheat.

Entomology in America in 1879. (American entomologist. January and February 1880. 3: 16–19, 30–34)

Presidential address before the Entomological club of the American association for the advancement of science. Gives a review of progress during the year.

Apple curculio —*Anthonomus* [*Tachypterus*] *quadrigibbus* Say. (Country gentleman. Mar. 4, 1880. 45: 150[47]–51[15])

General account of the insect, including life history, distribution and remedies.

Worms in rose pots — Larvae of *Bibio albipennis*. (Country gentleman. Mar. 11, 1880. 45: 167[12])

Larvae are indentified as probably those of *Bibio albipennis*.

New wheat pest. (Country gentleman. Mar. 11, 1880. 45: 167[23])

Not known whether *Cicadula* [*Limotettix*] *exitiosa* will attack clover in wheat fields.

Natural history of bacteria. (Country gentleman. Mar. 25, 1880. 45: 203[33]–4[12])

General account of the nature of various bacteria.

Raspberry gouty gall beetle. (Country gentleman. Ap. 1, 1880. 45: 215[12])

Brief notice of *Agrilus ruficollis* Fabr.

Wheat insects. (Country gentleman. Ap. 15, 1880. 45:247[22])

Habits of *Siphonophora avenae* [*Nectarophora granaria*], the work of its Chalcid parasites, etc.

Apple leaf Bucculatrix —*Bucculatrix pomifoliella* Clemens. (Country gentleman. Ap. 22, 1880. 45:263[21])

General account of the insect, giving life history and remedies.

Diseased quince twigs. (Country gentleman. Ap. 22 1880. 45: 264[24])

There is no evidence of insect attack.

Poisonous centipede — *Cermatia* [*Scutigera*] *forceps* Raf. (Country gentleman. May 13, 1880. 45: 311[21])

Brief notice of its abundance in Albany.

Rose bug —*Macrodacty lus subspinosus* Fabr. (Country gentleman. June 24, 1880. 45: 407[14])

General account of this pest, giving habits, preventives and remedies.

Tallow to preserve insect collections. (American entomologist. June 1880. 3: 145-46)

The value of tallow as a repellant to various insects.

Carpet bug —*Anthrenus scrophulariae* Linn. (Johnson's natural history, by S. G. Goodrich. 1880. 2: 651–52, fig. a–d)

General account, giving its discovery in this country, life history and remedies.

Potato beetle—*Coptocycla clavata* Fabr. (Country gentleman. July 1, 1880. 45: 423[25])

Short notice as a potato insect.

Cut worm moth. (Country gentleman. July 1, 1880. 45: 424[15])

Larva of *Agrotis* [*Noctua*] *clandestina* Harris is identified and habits given.

Eggs of army worm. (Country gentleman. July 1, 1880. 45: 424[26])

Eggs of *Leucania unipuncta* are identified.

White grub worm—*Lachnosterna fusca* Frohl. (Country gentleman. July 8, 1880. 45:439[14])

Records injuries by the grubs to lawns, remedies given.

Hessian fly. (Country gentleman. July 8, 1880. 45:439[17])

Brief general notice of *Cecidomyia destructor* Say.

A leaf eater. (Country gentleman. July 8, 1880. 45:439[39])

Insect is identified as the hairy necked leaf eater, *Phyllophaga pilosicollis* Knoch [*Lachnosterna tristis* Fabr.].

Squash borer. (Country gentleman. July 15, 1880. 45:455[25])

General account of *Aegeria cucurbitae* Harris [*Melittia satyriniformis* Hübn.] is given.

Stalk borer. (*Gortyna* [*Hydroecia*] *nitela* Guen.). (Country gentleman. July 22, 1880. 45 : 472[19])

Record of injury to potatoes by this species.

Striped blister beetle—*Epicauta vittata.* (Country gentleman. July 29, 1880. 45 : 488[15])

Beetles recorded as destructive to potatoes in Cayuga co., and about Albany.

Basket worm—*Thyridopteryx ephemeraeformis.* (Country gentleman. Aug. 19, 1880. 45 : 535[45])

Larva and moth described and remedies indicated.

Basket or bag worm—*Thyridopteryx ephemeraeformis.* (Country gentleman. Sep. 30, 1880. 45 : 631[36])

Reported as destroying arbor vitae hedges—habits and remedies given.

Caterpillars on the Ampelopsis. (Country gentleman. Oct 7, 1880. 45 : 647[26])

Two blue caterpillars are identified as *Alypia octomaculata* and *Eudryas* [*Euthisanotia*] *grata*, remedies are given.

Harlequin cabbage bug—*Murgantia histrionica* Hahn. (Country gentleman. Oct. 21, 1880. 45 : 679[14])

General account of its spread northward and remedies.

Two spotted tree hopper—*Enchophyllum binotatum* [*Enchenopa binotata*]. (Country gentleman. Nov. 4, 1880. 45 : 711[18])

Several stages described and the food plants and remedies given.

Flour paste flies. (Country gentleman. Nov. 18, 1880. 45 : 743[22])

Flies bred from flour paste are referred to *Drosophila ampelophila.*

Lepidoptera of the Adirondack region. Collected by W. W. Hill in 1875–78. (Progress of the topographical survey of the Adirondack region of New York. 7th annual report, by Verplanck Colvin. Albany 1880. p. 375–400. Separate, with title page and cover [November] 1880. p. 375–400)

Records 415 species collected, with sexes and dates of collection, and gives interesting facts about those taken.

Report on some injurious insects of the year 1879. [Presented to the New York state agricultural society at its annual meeting, Jan. 21, 1880] (New York state agricultural society. 39th annual report, 1880. p. 35–55) Also, in (New York state agricultural society. Transactions for 1877–82. 1884. 33 : 142–64, fig. 4)

After prefatory remarks the following insects are discussed : the clover seed midge, *Cecidomyia leguminicola* Lintn. ; clover root borer, *Hylesinus* [*Hylastes*] *trifolii* Müll. ; wheat stem maggot, *Meromyza americana* Fitch ; corn curculio, *Sphenophorus zeae* [*sculptilis*] ; stalk borer, *Gortyna* [*Hydroecia*] *nitela* Guen. ; apple tree case bearer, *Coleophora malivorella* Riley, concluding with a notice of the entomologic labors of Dr Asa Fitch.

[Address before the farmers' club of Onondaga co., N. Y., Dec. 4, 1880] (Syracuse morning standard. Dec. 6, 1880. p. 4)

General account of the value of ecomomic entomology.

Bean weevil — *Bruchus fabae* Riley [*obtectus* Say]. (Country gentleman. Jan. 6, 1881. 46 : 7[21])

Brief notice of its spread in this country and remedies.

Flight of Ephemera. (Country gentleman. Jan. 6, 1881. 46 : 7[25])

Records a remarkable flight of Ephemeridae or day-flies.

On the importance of entomological studies. (Papilio. Jan. 15, 1881. 1 : 1–2)

Shown by the literature and its relation to an extensive agriculture.

Description of a new species of Eudamus. (Canadian entomologist. April 1881. 13 : 63–65) Republished in (Injurious and other insects of the state of New York. 1st annual report, 1882. p. 338–39)

Describes *Eudamus* [*Thorybes*] *electra*, from an example captured in Hamilton, Ontario.

Asparagus beetle—*Crioceris asparagi* Linn. (Country gentleman. Ap. 14, 1881. 46 : 243[11])

General account of its introduction, spread, life history and remedies.

Army worm. The invasion of northern New York by this destructive pest. (Albany evening journal. May 23, 1881. p. 3; Country gentleman. June 2, 1881. 46 : 359[12])

Describes the ravages of a caterpillar [*Crambus vulgivagellus* Clem.], and indicates remedies.

On some species of Nisoniades. (Papilio. May 1881. 1 : 69–74. Separate, June 1881. p. 1–6) Republished in (Injurious and other insects of the state of New York. 1st annual report, 1882. p. 333–37)

Describes *Nisoniades* [*?Thanaos*] *naevius*, and *N.* [*?Thanaos*] *petronius* and *N.* [*Thanaos*] *somnus* and gives notes on *N.* [*?Thanaos*] *propertius*, *N.* [*?Thanaos*] *juvenalis*, *N.* [*Thanaos*] *icelus*, *Eudamus nevada* [*mexicana*] and *Eudamus proteus*.

'Army worm' invasion of northern New York. (St Lawrence republican. June 8, 1881. p. 51)

General notice of the operations and habits of the caterpillars [*Crambus vulgivagellus* Clem.], some are identified as *Nephelodes violans* Guen. [var. of *N. minians* Guen.]

A new insect pest — not the army worm. (Country gentleman. June 9, 1881. 46 : 375[11])

Insect in northern New York identified as *Nephelodes violans* Guen. [var. of *N. minians* Guen.]

Insects on plum trees. (Country gentleman. June 9, 1881. 46: 376[23])

Notices *Bibio femoratus* and the plum curculio.

Mites in clothing. (Country gentleman. June 9, 1881. 46:376[26])

Mites in a box of clothing were probably *Bryobia pratensis*.

Late insect invaders of northern New York. (Albany evening journal. July 1, 1881)

Larvae collected at Potsdam have been identified as *Nephelodes violans* Guen. [var. of *N. minians* Guen.] and *Crambus exsiccatus* Zeller [*trisectus* Walk.].

Orchard caterpillar. (Country gentleman. July 14, 1881. 46:455[35])

Apple tree tent caterpillar, *Clisiocampa americana* Fabr., is noticed.

Worms on tomatoes. (Country gentleman. July 14, 1881. 46:456[32])

'Light brown worm or fly,' can not be named without examples of the insect.

Pear tree blight. (Middleburgh gazette. July ? 1881)

Pear blight is described and treatment indicated.

Insects and fungus on quinces. (Country gentleman. Aug. 18, 1881. 46:535[16])

Quince curculio, *Conotrachelus crataegi* Walsh, the apple worm, *Carpocapsa pomonella* Linn. and a fungus, *Roestelia aurantiaca* [aecidial form of *Gymnosporangium clavipes*], are noticed.

Insect pest. Preservation of our shade trees from its ravages. (Albany evening journal. Aug. 31, 1881)

General account of the white marked tussock moth, *Orgyia* [*Notolophus*] *leucostigma*.

Insects on strawberry roots. (Country gentleman. Sep. 8, 1881. 46: 583[18])

Unable to identify the insect without examples.

Apple leaf cluster cup fungus. (Country gentleman. Sep. 8, 1881. 46: 583[22])

Brief notice of the fungus, *Oecidium pyratum* Schw. [aecidial form of *Gymnosporangium macropus*].

Beetle on the tomato. (Country gentleman. Sep. 8, 1881. 46: 584[36])

Ash gray blister beetle, *Epicauta cinerea* Forst. is recorded on the tomato.

Crambus vulgivagellus in northern New York. (St Lawrence republican. Sep. 14, 1881)

Notes on this species—it is the depredator, not *Nephelodes violans* Guen. [var. of *N. minians* Guen.]

Injurious insects, with special notice of some new insect pests. [Read before the New York state agricultural society at Elmira, Sep. 13, 1881] (Husbandman [Elmira, N. Y.] Sep. 14, 1881. p. 3, 6, 7—5 col.; Country gentleman. Sep. 29, 1881. 46: 631[21]; Oct. 6, 1881. p. 647[18]. Republished in New York state agricultural society. 41st annual report, 1881. Albany [August] 1882. p. 40–50. New York state agricultural society. Transactions, 1877–82. 1884. 33: 221–34)

The following insects are noticed: vagabond Crambus, *Crambus vulgivagellus* Clem., punctured clover leaf weevil, *Phytonomus punctatus* Fabr. and a pyralid web caterpillar, *Eurycreon rantalis* Guen. [*Loxostege similalis* Guen.]

Vagabond Crambus. (Ogdensburg [N. Y.] daily journal. Sep. 21, 1881)

This popular name proposed for *Crambus vulgivagellus* Clem., and remedies given.

Grass eating grub. (Country gentleman. Sep. 22, 1881. 46: 615[28])

Injuries by the white grub, *Lachnosterna fusca*, to grass, with remedies.

Barn beetle—*Lathridius pulicarius* Mels. [*ruficollis* Marsh.] (Country gentleman. Sep. 29, 1881. 46: 632[24])

Beetle infesting a barn is referred to this species.

Remarkable invasion of northern New York by a pyralid insect, *Crambus vulgivagellus*. [Abstract of a paper read before the American association for the advancement of science, at its Cincinnati meeting, in August 1881] (Science. Oct. 1, 1881. 2: 467; American association for the advancement of science. Proceedings, 1881. 30: 267–68)

Gives the principal features of the recent remarkable abundance of this insect and its injuries.

Peach pest—*Largus succinctus*. (Country gentleman. Oct. 13, 1881. 46: 663[15])

Brief notice of this bug attacking nearly ripened peaches.

Insect enemies of the strawberry. (Country gentleman. Oct. 27, 1881. 46: 695[24])

Notices the following insects: White grub, goldsmith beetle, *Cotalpa lanigera*, *Allorhina nitida*, grape vine Colaspis, strawberry crown borer, strawberry aphis, and *Paria aterrima* Oliv. [*Typophorus canellus* Fabr.].

Insects of the clover plant. [Read before the New York state agricultural society, at its annual meeting, Jan. 19, 1881] (New York state agricultural society. 40th Annual report. 1880. p. 10–26, fig. 1–6. 1881. Separate, with t. p. cover, p. 17, fig, 6 [October] 1881) Republished in New York state agricultural society. Transactions, 1877–82. 33: 187–207)

Gives lists of insects depredating on clover and notices the following species: clover root borer, *Languria mozardi* Latr.; clover seed midge, *Cecidomyia leguminicola* Lintn.; clover leaf midge, *Cecidomyia trifolii* Loew; clover Oscinis, *Oscinis trifolii* Burg.

On the life duration of the heterocera (moths). [Read before the American association for the advancement of science, at its Cincinnati meeting, August 1881] (Canadian entomologist. November 1881. 13: 217–20) Republished in (Injurious and other insects of New York, 1st annual report. 1882. p. 339–41)

Gives the life duration in the following families: *Noctuidae, Attacinae* of the *Bombycidae, Sphingidae.*

Corn beetle. (Country gentleman. Nov. 3, 1881. 46: 711[15])

Beetle feeding on corn is identified as *Lathridius pulicarius* Mels. [*ruficollis* Marsh].

Cabbage Plusia—*Plusia brassicae* Riley. (Country gentleman. Nov. 3, 1881. 46: 711[22])

General account of this insect, giving injuries, life history and remedies.

On the life duration of the heterocera (moths). [Abstract of a paper read before the A. A. A. S. at its Cincinnati meeting in August 1881] (Science. Nov. 5, 1881. 2: 525; Proceedings of the A. A. A. S., 1881. 30: 268–69)

Summary of the paper is given above.

Corn worm — *Heliothis armigera* [*armiger*] Hübn. (Country gentleman. Nov. 24, 1881. 46: 759[22]; Ontario county times. Nov. 24, 1881. 31: 3)

General notice of an attack on corn by this insect.

Habits of the Phylloxera. (Country gentleman. Dec 17, 1881. 46:779[13])

Brief notice of *Phylloxera vitifoliae* on grape.

Bean weevil — *Bruchus obsoletus* Say [*obtectus* Say] (Country gentleman. Dec. 8, 1881. 46: 795[15])

Brief account of this species and its allies.

Insects on sweet potato vines. (Country gentleman. Feb. 23, 1882. 47: 149[21])

Larvae infesting sweet potato vines are probably those of *Coptocycla aurichalcea* Fabr. [*bicolor* Fabr.]

Entomological — The anatomy of the mouth parts and the sucking apparatus of some diptera. (Country gentleman. Feb. 23, 1882: 47: 151[27])

Review of a paper by Mr George Dimmock on this subject.

Millions of grasshoppers in midwinter. (Albany evening journal. Feb. 25, 1882)

Notice of *Tragocephala* [*Chortophaga*] *viridifasciatia* on snow.

Winter grasshopper—*Tragocephala* [*Chortophaga*] *viridifasciata*. (Country gentleman. Mar. 9, 1882. 47 : 189[24])

A brief general notice of the insect.

Hickory borer—*Cyllene pictus* Drury. (Country gentleman. Mar. 9, 1882. 47 : 189[28])

Differences between this species and *C. robiniae*.

Apple leaf Bucculatrix. (Country gentleman. Mar. 16, 1882. 47 : 207[18])

Small white ribbed cocoons upon apple tree bark are those of *Bucculatrix pomifoliella* Clemens.

New principle in protection from insect attack. [Read before the Western New York horticultural society, at its annual meeting, Jan. 25 1882] (Western New York horticultural society. Proceedings. 1882, p. 52–66. Separate, with one-half title page cover, 15 p. [March, 1882])

Use of counterodorants as a preventive of insect attacks.

Insects that injure trees. (Country gentleman. Ap. 20, 1882. 47 : 313[16])

Notice of Dr Packard's *Insects injurious to forest and shade trees*, being Bulletin no. 7 of the U. S. entomological commission

White grub—*Lachnosterna fusca* Frohl. (Country gentleman. Ap. 27, 1882. 47 : 333[22])

General account of the insect.

Spring canker worm, *Anisopteryx* [*Paleacrita*] *vernata*. (Country gentleman. May 18, 1882. 47 : 393[13])

Its distribution from Maine to Texas, and the various remedies.

Mites in timothy fields. (Country gentleman. May 18, 1882. 47 : 395[15])

Mite is probably *Trombidium bicolor* [*Bryobia pratensis*].

Leaf mining Anthomyiidae. (Canadian entomologist. May 1882. 14 : 96–97. Entomological society of Ontario. 13th annual report. 1882. 1883, p. 31)

Chortophila [*Phorbia*] *floccosa* Macq., and two new species are treated.

Grain aphis—*Siphonophora avenae* Fabr. [*Nectarophora granaria* Kirby]. (Country gentleman. June 22, 1882. 47 : 493[25])

General notice of attack by this species on wheat.

Apple tree case bearer. (Country gentleman. July 6, 1882. 47 : 535[15])

Caterpillar of *Coleophora malivorella* Riley identified, and remedies given.

Spring canker worm—*Anisopteryx* [*Paleacrita*] *vernata* Peck. (Country gentleman. July 6, 1882. 47 : 533[24])

Injuries in New Canaan, Ct., and remedies indicated.

Rose bug. (Country gentleman. July 6, 1882. 47 : 534[32])

Gives several remedies for *Macrodactylus subspinosus*.

17 year locust. (Ontario county times. July 12, 1882. 28: 3)
General account of *Cicada septendecim* in the state of New York.

New household pest—*Attagenus megatoma* Fabr. [*piceus* Oliv.]. (Country gentleman. July 20, 1882. 47: 567[24])
General account of this carpet beetle.

Hessian fly in Ohio. (Country gentleman. July 20, 1882. 47: 567[36])
Attack by second brood, life history, remedies.

Bark beetle. (Country gentleman. Aug. 3, 1882. 47: 605[28])
Identification of *Hymenorus obscurus* Say, with notice of habits.

Stalk borer. (Country gentleman. Aug. 3, 1882. 47:605[34])
Gortyna [*Hydroecia*] *nitela* Guen. injurious to potatoes and corn, remedies.

Wire worms infesting potato vines. (Country gentleman. Aug. 10, 1882. 47:625[22])
Brief notice of wire worms, *Elateridae*, infesting potatoes.

Horn tail borer—*Tremex columba* Linn. (Country gentleman. Aug. 10, 1882. 47:625[26])
Notices injuries to maples by this species and *Glycobius* [*Plagionotus*] *speciosus*, and the parasites, *Rhyssa* [*Thalessa*] *lunator* and *R.* [*Thalessa*] *atrata*.

Spotted horn bug. (Country gentleman. Aug. 27, 1882. 47:645[21])
General notice of *Dynastes tityus*.

Mites infesting a poultry house. (Country gentlemen. Aug. 17, 1882. 47:645[28])
Mites are probably a common species, remedies are given.

New worm in apples. (Country gentleman. Sep. 21, 1882. 47:745[25])
White worm in early apples may be *Sciara mali*.

Black blister beetle—*Epicauta pennsylvanica* DeGeer. (Country gentleman. Sep. 21, 1882. 47:745[32])
Beetle injurious to carrots and cabbages, remedies indicated.

Hag moth caterpillar. (Country gentleman. Sep. 21, 1882. 47:745[36])
Larvae of *Phobetron pithecium* Sm.-Abb. described and interesting facts given.

New apple insect—*Amphidasys* [*Lycia*] *cognataria* Guen. (Country gentleman. Oct. 5, 1882. 47: 785[34])
Brief account as an apple tree pest.

Destructive elm leaf beetle—*Galerucella xanthomelaena* Schrank [*luteola* Müll.] (Country gentleman. Oct. 12, 1882. 47: 805[11])
Identified from Bound Brook, N. J., and remedies given.

Rose leaf insect. (Country gentleman. Mar. 1, 1883. 48: 169[25])
Caterpillar feeding on rose leaves is identified as *Penthina nimbatana* Clem.

Of interest to flower growers — A new enemy found. (Troy daily times. Ap. 2, 1883)

Discovery of a caterpillar, probably *Plusia dyaus* Grote [*rogationis* Guen.], feeding upon heliotrope, geranium, wandering jew (*Tradescantia*), etc.

Bean weevil. (Country gentleman. Ap. 19, 1883. 48: 317[32])

Identification and brief notice of *Bruchus fabae* Riley [*obtectus* Say].

Thousand legged worms in a nursery—*Julus caeruleocinctus* Wood. (Country gentleman. May 24, 1883. 48: 421[23])

General account of this species, giving characteristics, habits and remedies.

Curious ichneumon cocoons. (Country gentlemen. June 14, 1883. 48: 481[24])

Cocoons of *Apanteles congregatus* Say described; the habits and value of allied species.

On an egg parasite of the currant saw fly, *Nematus ventricosus* Klug. [*Pteronus ribesii* Scop.]. (Psyche. 1883. 4: 48–51)

Account of *Trichogramma pretiosa* as a parasite of this saw fly.

Rearing lepidoptera. (Psyche. 1883. 4: 53, 13 cm)

Notices work of Mr S. L. Elliot and his success in rearing lepidoptera.

Book notice. (Psyche. 1883. 4: 53, 11 cm)

Notices the volume, *Insects injurious to fruits*, by Mr William Saunders as soon to be published.

Codling moth of the apple. (Country gentleman. June 28, 1883. 48: 421[23])

Identification of *Carpocapsa pomonella* and remedies.

An interesting bug. (Country gentleman. June 28, 1883. 48: 521[27])

Account of the beneficial habits of the 'wheel-bug,' *Prionotus* [*Prionodus*] *cristatus* Linn.

Maple tree scale insect—*Lecanium* [*Pulvinaria*] *innumerabilis* Rathvon. (Country gentleman. July 5, 1883. 48: 541[31])

General account of this species, giving life history, references to papers treating on it and remedies.

Black long sting—*Rhyssa* [*Thalessa*] *atrata* Fabr. (Country gentleman, July 12, 1883. 48: 561[26])

Characters of the species and its method of oviposition.

Hairworm, Vanessa, Alaus, Gordius and Mermis. (Country gentleman. July 19, 1883. 48: 581[12])

Gordius, *Mermis*, *Vanessa* [*Eurvanessa*] *antiopa* and *Alaus oculatus* are briefly treated.

Oak moth—*Anisota senatoria* Sm.-Abb. (Country gentleman. July 26. 1883. 48: 601[33])

Brief notice of this species.

Captures of *Feniseca tarquinius* Fabr. (Psyche. 1883. 4 : 75, 13 cm)

Number of examples collected at Keene Valley, N. Y., and one at Center, N. Y.

[Platygaster larva destroying galls of *Cecidomyia salicis-batatus*] (Psyche. 1883. 4 : 79—7 cm)

Reference to Prof. D. S. Kellicott's observations on the above.

[Collecting cut worms at evening with a light] (Psyche. 1883. 4 : 80, 10 cm)

Notice of collections made about dusk in the evening.

Grape pest—*Procris* [*Harrisina*] *americana*. (Country gentleman. Aug. 2, 1883. 48 : 621[26])

Insect in Champaign co., Ohio, description, remedies.

Potter wasp cells on grape leaves—*Eumenes fraternus* Say. (Country gentleman. Aug. 9, 1883. 48: 641[44])

Description of the cells and habits of the insect.

Frenching of corn. (Country gentleman. Aug. 16, 1883. 48: 661[42])

Causes of frenching, a brief account of *Sphenophorus sculptilis*.

Striped squash beetle. (Country gentleman. Aug. 23, 1883. 48: 681[23])

Brief account of *Diabrotica vittata* Fabr.

Carpet bug—*Anthrenus scrophulariae*. (Country gentleman. Aug. 23, 1883. 48: 681[27])

Report of this larva injuring linen and silk goods doubted; remedies.

Pine emperor moth. (Country gentleman. Sep. 27, 1883. 48: 781[27])

Larva of *Eacles* [*Basilona*] *imperialis* Drury is identified and habits given.

Saw fly larvae on quince. (Country gentleman. Oct. 4, 1883. 48: 801[23])

Describes the larva of saw fly on quince leaves, and notices *Vanessa* [*Euvanessa antiopa* and *Adalia bipunctata*.

Bark louse on willow. (Country gentleman. Oct. 4, 1883. 48: 801[26])

Apple tree bark louse, *Mytilaspis pomorum*, recorded on Kilmarnock willow.

Chinch bug in northern New York. (Argus [Albany]. Oct. 10, 1883. p. 3; Watertown [N. Y.] daily times. Oct. 12, 1883. [same article copied] Country gentleman. Oct. 18, 1883. 48 : 841[25] [same copied nearly entire])

General account of *Blissus leucopterus* in northern New York, giving appearance, ravages and remedies.

New enemy to the farm. (Argus [Albany]. Oct. 10, 1883. p. 4, col. 3, 30 cm)

Recapitulation of the preceding paper slightly altered.

Chinch bug in New York. (Science. Oct. 19, 1883. 2 : 540, 16 cm)

Its detection in large numbers in St Lawrence co., N. Y.

Mole cricket. (Country gentleman. Oct. 25, 1883. 48: 861[24])

Habits of *Gryllotalpa borealis* Burm. and remedies.

Directions for arresting the chinch bug invasion of northern New York. (New York state museum of natural history: Department of entomology. Circular no. 1. October 1883. 3 p., fig. 1)

Brief account emphasizing the necessity for remedial measures.

1st annual report on the injurious and other insects of the state of New York. Made to the state legislature, pursuant to ch. 377 of the laws of 1881. Albany: Weed, Parsons and Company, printers. 1882. 22+381p., 84 fig [issued in October, 1883]

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Ant lion. (Country gentleman. Nov. 1, 1883. 48: 981[16])

Gives an interesting account of the habits of several species of ant lions.

New corn pest—*Megilla maculata.* (Country gentleman. Nov. 22, 1883. 48: 941[15])

Injurious habits of this species exceptional in the *Coccinellidae.*

Apple maggot—*Trypeta pomonella.* (New York agricultural experiment station. Bulletin 75. Dec. 29, 1883, 110 cm)

General account of this species, giving injuries, life history, remedies, and mentions *Sciara mali.*

New sexual character in the pupae of some Lepidoptera. (Psyche. 1883. 4: 103-6—Issued Feb. 11, 1884.) Abstract in proceedings of the American association for the advancement of science, for the meeting held at Montreal, Canada, August 1882, 1883. pt 2, 31: 470-71.

On sexual characters among insects, specially of certain ones in the pupae of the *Cossidae* and *Aegeriadae.*

Horn tail—*Urocerus cressoni.* (Country gentleman. Jan. 3, 1884. 49: 9[12])

Identified and habits briefly given.

Fuller's rose beetle — *Aramigus fulleri.* (Country gentleman. Jan. 17, 1884. 49:49[21])

General account of this insect, giving injuries, distribution, life history and remedies.

Lunate long sting — *Thalessa lunator* Fabr. (Country gentleman, Ap. 17, 1884. 49:331[36])

Life history and habits of this species, with mention of its host, *Tremex columba.*

Insect attack on a Julus. (Canadian entomologist. April 1884. 16:80. 7 cm)

Of a possible attack by ichneumon flies on a Julus.

Insect injury to grape vines. (Country gentleman. May 8, 1884. 49: 397[11])

General account of injury by *Oecanthus latipennis* to grape vines.

Squash borers. (Country gentleman. May 8, 1884. 49:397[24])

Injuries to squash vines referred to *Melittia cucurbitae* Harris [*satyriniformis* Hübn.].

Punctured clover leaf weevil. (Country gentleman. May 29, 1884. 49:457[21]; Ontario county times, extra. May 29, 1884)

General account of *Phytonomus punctatus* Fabr., giving description of the insect, and remedies.

New clover pest—its ravages in the southern portion of Canandaigua. (Ontario county times, extra. May 29, 1884, 30 cm. June 4, 1884. p. 3, col. 4–5, 85 cm)

Ravages of *Phytonomus punctatus,* and remedies for the pest.

Corn cut worm. (New York agricultural experiment station. Bulletin 86. Geneva. May 31, 1884)

Gives the methods of controlling cut worms.

White grub of the May beetle — *Lachnosterna fusca.* [Read before the New York state agricultural society at the annual meeting, Jan. 16, 1884.] (New York state agricultural society. 43d annual report. 1883. [June 5] 1884. p. 20–37, fig. 5)

General account of white grubs and the parent beetles.

Squash vine borer — 1. *Melittia cucurbitae* Harr. [*satyriniformis* Hübn.] (Country gentleman. June 5, 1884. 49:477[25])

Describes caterpillar and moth, with remarks upon its family.

Squash vine borer — 2. (Country gentleman, June 12, 1884. 49:497[21])

Life history, habits and injuries discussed.

Squash vine borer — 3. (Country gentleman. June 19, 1884. 49:517[11])

Treats of various remedies and preventives.

Bacon beetle — *Dermestes lardarius.* (Country gentleman. June 26, 1884. 49 : 537[23])

Brief account of this species, giving description, habits and remedies.

Maple tree scale insect. (Country gentleman. July 3, 1884. 49 : 556[46]–57[17])

Identifying *Lecanium* [*Pulvinaria*] *innumerabilis* Rathv., and giving remedies.

Spring canker worm—*Anisopteryx* [*Paleacrita*] *vernata* Peck. (Country gentleman. July 10, 1884. 49 : 577[24])

Treats of the importance and means of arresting its spread.

Buffalo gnat. (Country gentleman. July 10, 1884. 49 : 577[33])

General account of the species [*Simulium invenustum*].

Carpet bug. (Daily democrat [Amsterdam, N. Y.] July 21, 1884)

Gives description and habits of the insect, with remedies.

Elm tree beetle. (New York weekly tribune. July 23, 1884)

Destroying the larvae and pupae at base of trees recommended.

Carpet beetle—*Anthrenus scrophulariae* Linn. (Country gentleman. Aug. 14, 1884. 49 : 676[43]–77[18])

Gives its habits, habitat, injuries, materials eaten, transformations, preventives and remedies.

Insects mining beet leaves. (Country gentleman. Aug. 14, 1884. 49 : 677[22])

Attack on beet leaves referred to Anthomyians.

Peach root aphis. (Gardener's monthly and horticulturist (Phil.) September 1884. 26 : 271–72, 29 cm)

Root aphis on seedling peach trees is believed to be *Myzus persicae* Sulz. [*Aphis prunicola* Kalt.] and remedies are given.

New rose pest—*Homoptera lunata.* (Country gentleman. Sep. 1, 1884. 49 : 737[16])

Caterpillars of this species are recorded feeding on rose buds.

Jumping seeds. (Country gentleman. Sep. 11, 1884. 49:757[15])

General notice of *Carpocapsa saltitans* and of other species.

White grub—*Lachnosterna fusca.* (Country gentleman. Sep. 11, 1884. 49:757[27])

Starvation remedy is recommended.

Insect attack new to the state—*Isosoma tritici*, on wheat, in Geneva. (New York agricultural experiment station, Bulletin 100. Geneva, N. Y. Oct. 4, 1884)

General account of the insect and its treatment.

Stinging bug—*Melanolestes picipes* H.-S. (Country gentleman. Oct. 23, 1884. 49:877[24])

Melanolestes picipes H.-S., or 'black corsair,' *Conorhinus sanguisugus* LeC., *Melanolestes abdominalis* H.-S., *Reduvius*, [*Opsicoetus*] *personatus* Linn., and *Prionotus* [*Prionodus*] *cristatus* Linn. are mentioned.

Attack on the apple worm—A friend, not a foe. (Country gentleman. Oct. 30, 1884. 49:897[27])

Notice of *Chauliognathus marginatus* Fabr. feeding upon the apple worm—the larva of *Carpocapsa pomonella*. *Chauliognathus pennsylvanicus* and *Conotrachelus crataegi* mentioned.

Clover insects. (New York state agricultural society. Transactions, 1877–82. [October] 1884. 33:206–7)

Supplement to the paper on 'The insects of the clover plant,' in which are named 24 additional species—making a total of 70.

White grub. (New England homestead. Nov. 8, 1884. 18:383, col. 1–3)

Extended notice of white grubs, giving distribution, life history and remedies.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1883. (New York state museum of natural history. 37th annual report by the regents of the University of the State of New York. [November] 1884. p. 45–60)

The following insects are noticed: *Grapta* [*Polygonia*] *faunus*, *G.* [*Eugonia*] *j-album*, *Feniseca tarquinius*, *Agrilus torpidus* [*anxius*], *Agrotis* [*Noctua*] *clandestina*, *Simulium molestum* [*venustum* Say], *Orgyia* [*Notolophus*] *leucostigma*, and *Blissus leucopterus*.

Apple leaf Bucculatrix. (Husbandman [Elmira, N. Y.] Dec. 3, 1884. No. 537, 11 : 1)

General account of *Bucculatrix pomifoliella*.

On some Rio Grande Lepidoptera. (Papilio. 1884. 4 : 135–47) [Published February 1885]

Gives an annotated list of collections made by Messrs Sennett and Webster in 1877 and 1878, the following new species being described: *Kricogonia lanice*, *Apatura cocles*, *Sphinx insolita* and *Ecpantheria sennettii* Lintn. [*garsoni* Oberthur].

Scale insect attack on ivy. (Country gentleman. Feb. 26, 1885. 50 : 169[22])

Identifies *Aspidiotus nerii* Bouché on ivy and gives remedies.

Owl beetle — *Alaus oculatus* [subsequently proved to be *A. myops*] (Country gentleman. Ap. 9, 1885. 50: 307[13])

Brief notice of the insect.

Remedies for the white grub. (New England homestead. May 16, 1885. 19: 205, col. 2)

Starvation, crops of buckwheat, mustard, are the remedies given.

Cut worms. [Read before the New York state agricultural society, at the annual meeting, Jan. 21, 1885.] (New York state agricultural society. 44th annual report. 1884. [May] 1885. p. 56–80, fig. 1–20) (Separate, with cover and half title [June 1885] 25 p., 20 fig.)

Extended account of cut worms and their treatment.

Potato bug parasite. (New England homestead. June 6, 1885. 19: 237, col. 2)

Mite infesting and killing Colorado potato beetles is identified as *Uropoda americana* Riley.

Visitation of locusts. (Argus [Albany], June 7, 1885)

On the appearance of the 17 year locusts in New York.

Pear blight beetle. (Country gentleman. June 18, 1885. 50: 517[22])

General notice of *Xyleborus pyri* [*dispar*].

Canker worm. (Country gentleman. June 18, 1885. 50: 519[26])

Notice of *Anisopteryx* [*Paleacrita*] *vernata* Peck, with remedies.

Insect eggs on strawberries. (Country gentleman. June 25, 1885. 50: 537[31])

Eggs of hemipteron can not be identified, *Corimelaena pulicaria* mentioned.

Plant lice, elm beetles, etc. (New England homestead. July 4, 1885. 19: 269, col. 1–2)

Schizoneura americana and *Galeruca xanthomelaena* [*Galerucella luteola*] noticed.

Apple tree bark louse. (New England homestead. July 4, 1885. 19: 269, col. 4–5)

Mytilaspis pomorum Bouché identified and remedies given.

Cut worm and onion maggot. (Country gentleman. July 9, 1885. 50: 574[45]–75[11])

Remedies for cut worms—*Anthomyia* [*Phorbia*] *brassicae* and *Phorbia ceparum* are given.

Peach and cherry borers. (Country gentleman. July 9, 1885. 50: 575[11])

Brief notice of *Phloeotribus liminaris* Harr. and *Scolytus rugulosus* Ratz.

Fig eater—*Allorhina nitida*. (Country gentleman. July 9, 1885. 50: 575[16])

Its habits are described briefly.

Round headed apple tree borer—*Saperda candida* Fabr. (Country gentleman. July 16, 1885. 50: 590[44]–91[14])

Borers in hawthorn are probably this insect—several remedies are given.

Entomological. [Answers to inquiries] (Country gentleman. July 16, 1885. 50:592[25])

Remedies are given for the potato beetle and rose bug.

Cause of black knot. (Country gentleman. July 23, 1885. 50:607[18])

It is produced by a fungus, *Plowrightia morbosa.*

Cucumber moth. (Country gentleman. July 23, 1885. 50:607[26])

Notices *Phakellura* [*Margaronia*] *nitidalis* Cram., *P.* [*Margaronia*] *hyalinata* and *Melittia curcubitae* Harr. [*satyriniformis* Hübn.].

Apple insects and the Rhinoceros beetle. (Country gentleman. July 30, 1885. 50: 623[25])

Orgyia [*Notolophus*] *leucostigma* [subsequently emerged and proved to be *Acronycta* sp.] and *Dynastes tityus* noticed.

Another potato pest. (New England homestead. Aug. 8, 1885. 19: 309, col. 3)

Remedies are given for *Macrobasis unicolor* Kirby.

Roestelia aurantiaca. (Country gentleman. Aug. 13, 1885. 50: 661[38])

Brief notice of the above fungus [aecidial form of *Gymnosporangium clavipes*] occurring on quince.

False chinch bug. (Country gentleman. Aug. 13, 1885. 50: 661[43])

Food plants and remedies for *Nysius angustatus* Uhler.

Bag worm—*Thyridopteryx ephemeraeformis.* (Country gentleman. Oct. 1, 1885. 50: 801[31])

Gives the remedies for this insect.

Red spider—*Tetranychus telarius* Linn. (Country gentleman. Oct. 8, 1885. 50: 821[38])

Mite identified and remedies given.

13-year Cicada. (Argus [Albany]. Oct. 11, 1884. p. 4, 32 cm)

Notices specially Riley's experiment on the 13 and 17 year forms.

Elm leaf beetle. (Country gentleman. Oct. 15, 1885. 50: 841[35])

Galeruca xanthomelaena [*Galerucella luteola*] identified and remedy given.

Clubbed tortoise beetle. (Country gentleman. Oct. 15, 1885. 50: 841[43])

Appearance, habits and food plants of *Coptocycla clavata* Fabr.

Leaf mining insect. (Home Farm [Augusta, Me.] Oct. 15, 1885. p. 1)

Brief notice of *Chortophila* [*Pegomyia*] *betarum* Lintn.

Death watch—*Clothilla pulsatoria.* (Country gentleman. Oct. 22, 1885. 50: 861[35])

Habits and occurrence of this species.

Eggs of a katydid. (Country gentleman. Oct. 29, 1885. 50: 881[42])

Notices *Microcentrum retinervis* and *Platyphyllum concavum* [*Cyrtophyllus concavus*].

New insect foe to the cut worm. (New England homestead. Oct. 31, 1885. 19 : 405, col. 3-4)

Brief account of a cut worm parasite, a species of *Gonia*.

Saw fly on fruit trees. (Country gentleman. Nov. 12, 1885. 50+921[34])

Notices briefly an attack in Scotland by a saw fly, probably *Eriocampa adumbrata*, and gives remedies.

2d report on the injurious and other insects of the state of New York. Made to the legislature, pursuant to ch. 377 of the laws of 1881. Albany : Weed, Parsons & Co., legislative printers. 1885. 14+265p., 68 fig. [Issued Feb. 20, 1886]

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Some injurious insects of Massachusetts. (Massachusetts state board of agriculture. 33d annual report. 1886. Also, separate, with title page and cover [Mar. 12] 1886, 34 p.) [Read before the Massachusetts state board of agriculture, at its meeting at Framingham, Dec. 1, 1885]

Treats of canker worm, cut worms, *Sphinx quinquemaculata* [*Phlegethontius celeus*], *S.* [*Phlegethontius*] *carolina*, *Trypeta pomonella*, *Crioceris asparagi*, Rose leaf 'Thrips,' *Tettigonia vitis* [var. of *Typhlocyba comes* Say], *Tettigonia* [*Typhlocyba*] *rosae*.

Spring canker worm—*Anisopteryx* [*Paleacrita*] *vernata* Peck. (Country gentleman. Ap. 1, 1886. 51: 249[21])

Its ravages in Dutchess co., remedies.

Cause of gapes. (Country gentleman. Ap. 8, 1886. 51: 269[13])

General history of the gapes parasite, *Syngamus trachealis*.

Birch seed insect. (Country gentleman. Ap. 15, 1886. 51: 287[23])

Describes larva of birch seed insect [*Cecidomyia betulae*.]

Cause and treatment of gapes. (Country gentleman. Ap. 15, 1886. 51: 289[25])

Gives life history of *Syngamus trachealis* and remedies.

Aphis mali—the apple plant louse in Ontario orchards. (Ontario county times. May 12, 1886. Copied in Sentinel [Trumansburg, N. Y.] May 19, 1886; Watkins express [N. Y.] May 20, 1886; Palmyra courier [N. Y.] May 28, 1886)

Identifies and gives remedies for this plant louse.

Curculio demonstration. (Country gentleman. May 13, 1886. 51: 366[48]–67[12])

Note on *Pachylobius picivorus* Germ.

Orange insects. (Country gentleman. May 13, 1886. 51: 370[32])

Review of Mr Hubbard's report on this subject.

Apple tree aphis infesting our orchards. (New England homestead. May 15, 1886. 20: 189, col. 3)

Brief account of *Aphis mali*.

Canker worm and codling moth described. (New England homestead. May 15, 1886. 20: 192, col. 4)

Notice of canker worm and codling moth.

Insects and other pests. (New England homestead. May 22, 1886. 20: 189, col 5)

Nematus ventricosus [*Pteronus ribesii*] and *Bembecia marginata* noticed.

Horizontal borings in tree trunks. (Country gentleman. May 27, 1886. 51: 409[15])

Injury is referred to the work of the yellow bellied woodpecker.

Elm leaf beetle. (Country gentleman. May 27, 1886. 51: 409[25])

Galerucella xanthomelaena [*luteola*] identified.

Plea for entomological study. (Glens Falls [N. Y.] republican. June 1, 1886)

Extracts from an address before the Agassiz association of Glens Falls.

Apple tree aphis. (Country gentleman. June 3, 1886. 51: 429[16])

Mentions *Aphis mali* and *A.* [*Myzus*] *ribis*.

Asparagus beetle. (Country gentleman. June 3, 1886. 51: 429[24])

Brief notice of *Crioceris asparagi*.

New strawberry insect. (New England homestead. June 5, 1886. 20: 216, col. 5)

Bembidium quadrimaculatum is recorded as injurious to strawberries.

Grapevine scale insect. (New England homestead. June 12, 1886. 20: 221, col. 6)

Brief notice of *Pulvinaria vitis* [*innumerabilis*].

Apple tree bark louse. (Country gentleman. June 17, 1886. 51: 469[42])

Identifies and gives remedies for *Mytilaspis pomicorticis* [*pomorum*].

Forest tent caterpillar. (New England homestead. June 19, 1886. 20: 229, col. 4–5)

Brief account of *Clisiocampa sylvatica* [*disstria*].

Squash bug. (New England homestead. June 19, 1886. 20: 229, col. 5)

Records injuries to melon vines by *Anasa tristis*.

New attack on wheat. (Country gentleman. June 24, 1886. 51: 487[25])

Describes the attack of an unknown saw fly on wheat.

Unknown grass insect. (Country gentleman. July 1, 1886. 51: 503[16])

Gives characters of an unknown attack on grass.

Gortyna nitela destroying tomato plants. (Orange county farmer. July 1, 1886. p. 4)

Injuries to tomato plants by *Gortyna* [*Hydroecia*] *nitela* Guen.

Hop vine insects — Origin of honey dew. (Waterville [N. Y.] times. July 16, 1886. p. 2)

General account of *Phorodon humuli*.

Honey dew on the hop vine. (Country gentleman. July 22, 1886. 51: 553[44])

Gives origin of honey dew and identifies the larva of *Adalia bipunctata*.

New attack on the potato. (New England homestead. July 24, 1886. 20: 273, col. 1)

Attack by aphids is referred with doubt to *Megoura solani*.

Potato stalk weevil—*Trichobaris trinotata* Say. (American rural home. July 24, 1886. No. 30, 16: 8, col. 4–5, 22 cm)

Brief notice of this species.

Plant louse on the potato. (Country gentleman. July 29, 1886. 51: 569[18])

Referred with doubt to *Megoura solani* and remedies given.

[Notice of Dr Walker's communication on Experiments with gapes] (Country gentleman. July 29, 1886. 51: 576[14])

Review of paper on identity of parasites in earthworms with *Syngamus*.

Stalk borer. (New England homestead. July 31, 1886. 20: 277 col. 1)

Notices an attack on corn by *Gortyna* [*Hydroecia*] *nitela*.

Maple tree pruner—*Elaphidion* sp. (Country gentleman. Sep. 9, 1886. 51: 677[25])

Gives features of attack by *Elaphidion parallelum* Newm. [*villosum* Fabr.] on maples.

[Myriads of minute insects in the air] (Albany evening journal. Sep. 9, 1886. p. 4)

Insects in the air are identified as *Aphis* [*Nectarophora*] *granaria*.

Apple tree pest and parasite. (Country gentleman. Sep. 16, 1886. 51:695[13])

Oedemasia [*Schizura*] *concinna* and *Limneria fugitiva* noticed.

Carrot and parsnip aphids. (Country gentleman. Sep. 16, 1886. 51:695[18])

Records injuries to carrots and parsnips by aphids.

Ham infesting mite. (Country gentleman. Sep. 16, 1886. 51:695[25])

Identifies the cheese mite, *Tyroglyphus siro*, on ham.

Cockscomb elm gall. (Country gentleman. Sep. 23, 1886. 51:713[34])

Galls of *Glyphina* [*Colopha*] *ulmicola* described, and synonymy and bibliography given.

U. S. entomological report. (Country gentleman. Sep. 23, 1886. 51:715[35])

Short notice of Riley's report for 1885.

New and destructive borer to be conquered. (New England homestead. Sep. 25, 1886. 20:341, col. 4)

Identifies *Scolytus rugulosus* and *Phlocotribus liminaris*.

Honey dew on maple leaves. (New England homestead. Sep. 25, 1886. 20:344, col. 2)

Brief notice of honey dew, its source and value to bees.

Gapes in fowls. (Country gentleman. Sep. 30, 1886. 51:731[41])

Comments on Dr Walker's paper on gapes.

Muskmelon worm. (Country gentleman. Sep. 30, 1886. 51: 733[35])

Account of *Phakellura* [*Margaronia*] *nitidalis* and mention of *Chauliognathus marginatus*.

Silk culture. (Country gentleman. Sep. 30, 1886. 51 : 735[23])

Brief review of *The mulberry silk worm*, by Riley.

A queer bug and other insects. (Country gentleman. Oct. 7, 1886. 51 : 753[41])

Notices *Leptoglossus oppositus*, *L. phyllopus* and *Metapodius femoratus*.

Severe attack on the potato. (Country gentleman. Oct. 14, 1886. 51 : 773[35])

Records an attack of *Julus caeruleocinctus* and a species of *Polydesmus* on potatoes.

Beech tree blight. (Husbandman [Elmira, N. Y.] Oct. 27, 1886. No. 636. 13 : 1, col. 1, 2, 38 cm)

Brief account of *Pemphigus imbricator* Fitch.

Grain aphis in Maryland. (Country gentleman. Nov. 25, 1886. 51 : 893[25])

Refers an attack on rye to *Siphonophora avenae* [*Nectarophora granaria*].

Annual address of the president of the entomological club of the A. A. A. S., at the Buffalo meeting, Aug. 17, 1886. (Entomologica americana. 1886. 2: 143–60)

Gives the evidences of progress in entomology during the past year.

Sweet potato pest. (Albany express. Dec. 8, 1886)

Notice of the sweet potato weevil, *Cylas formicarius* Fabr.

Praying Mantis and its eggs. (Country gentleman. Jan. 6, 1887. 52: 9[32], fig.)

Gives the life history and beneficial habits of *Mantis* [*Stagmomantis*] *carolina*.

Bug injurious to shade trees. (Country gentleman. Jan. 27, 1887. 52: 69[27])

Brief notice of *Leptocoris tririttatus* Say in Kansas.

Fuller's rose beetle — *Aramigus fulleri* Horn. (Country gentleman. Feb. 3, 1887. 52: 89[12])

Describes its injuries in greenhouses.

Harmlessness of the lady bird, *Adalia bipunctata*. (The Owl [organ of Agassiz association, Glens Falls, N. Y.] February 1887. 2: 15)

Mention of its abundance and beneficial habits.

Aphididae, or plant lice. (Western New York horticultural society. Proceedings. 32d annual meeting, Jan 26 and 27, 1887. p. 85–97) [Issued in March 1887]

General account of plant lice, giving systematic position, features, distribution, injuries, propagation, our imperfect knowledge and recent discoveries.

Wood eating insect. (Country gentleman. Mar. 31, 1887. 52: 257[13])

Records the presence of *Xylotrechus colonus* Fabr. in a house.

Do spiders protect fruit trees from aphids? (Green's fruit grower. April 1887. p 17)

No record is known of spiders devouring aphids under natural conditions.

Currant worm remedy. (Popular gardening. April 1887. 2: 120–21)

Recommends hellebore and mentions the parasite, *Trichogramma pretiosa*.

Life history of *Hemileuca maia* Drury. (Swiss cross. April 1887. 1: 135–39, fig. 1–3)

General account of the life history of this species.

How to prevent the cabbage maggot. (New England homestead. Ap. 9, 1887. 21: 136, col. 5)

Gives a number of remedies for this species.

Apple tree bark louse. (Country gentleman. Ap. 21, 1887. 52: 321[15])

Gives life history and remedies for *Mytilaspis pomicorticis* [*pomorum*].

Borers in timber. (Country gentleman. Ap. 28, 1887. 52: 341[31])

A few general recommendations for the protection of timber from borers.

Honey dew eaten by bees. (Country gentleman. Ap. 28, 1887. 52: 341[36])

On the value of honey dew as a food for bees.

17 year locust — *Cicada septendecim.* (Owl [Glens Falls, N. Y.] May 1887. 2: 17–19, fig. 1–5)

General account of *Cicada septendecim*, reference is made to the 13 year form and to *C. tibicen.*

[Root aphis of the hop vine.] (Waterville [N. Y.] times. May 6, 1887. p. 2)

Records the attack by an unknown root aphis on the roots of hop vines.

Lady birds, leaf and carpet beetles. (Country gentleman. May 12, 1887. 52: 381[15], fig. 1–6)

Gives the characters of the lady birds, leaf beetles (*Chrysomelidae*) and the carpet beetle.

Little winged pest. (Argus [Albany]. May 16, 1887. p. 2)

Abstract of a paper on the mosquito [See 12th report, p. 319–35].

Another apple tree pest. (Country gentleman. May 19, 1887. 52: 398[44])

Records serious injuries to apple buds by *Crepidodera rufipes* Linn.

New(?) aphis on hop roots. (Country gentleman. May 19, 1887. 52: 401[31])

Importance of knowing the life history of *Phorodon humuli.*

Currant worm parasite. (Express [Albany]. May 23, 1887. 41: 2)

Mentions the attack of *Trichogramma pretiosa* on the currant worm.

Leather beetle. (Boots and shoes weekly. May 25, 1887. 11: 473)

Insect burrowing in leather is probably *Dermestes vulpinus, Sitodrepa panicea* mentioned.

Saw fly on apple trees. (Country gentleman. May 26, 1887. 52: 421[31])

Habits of *Dolerus sericeus* Say and *D. arvensis* Say, food plants of latter.

Elm leaf beetle going northward. (Country gentleman. May 26, 1887. 52: 421[37])

Galerucella xanthomelaena [*luteola*] received from Poughkeepsie.

New cotton pest. (Country gentleman. June 2, 1887. 52: 441[45])

Injuries to cotton by *Systena blanda* var. *bitaeniata* [*taeniata*] recorded.

Thrips in strawberry blossoms. (Country gentleman. June 9, 1887. 52: 459[12])

General account of injuries by the *Thripidae.*

Leather beetle again. (Boots and shoes weekly. June 15, 1887. 11 : 608)

Injuries by *Sitodrepa panicea* to shoes, with remedies.

Apple pest. (Oswego daily times. June 18, 1887. p. 4)

Records serious injuries by the rose bug, *Macrodactylus subspinosus* to apple trees, and gives several remedies.

Cockscomb elm gall. (Country gentleman. June 23, 1887. 52 : 491[23])

Brief notice of *Glyphina* [*Colopha*] *ulmicola*.

Ox warble fly. (Country gentleman. June 23, 1887. 52 : 493[11])

General account of *Hypoderma bovis* [an erroneous reference of *H. lineata*] giving its life history and remedies.

Grape vine leaf hopper. (Country gentleman. June 23, 1887. 52 : 493[41])

Gives a brief account of *Tettigonia vitis* [*Typhlocyba comes* var.]

Rose bug. (Country gentleman. June 30, 1887. 52 : 511[13])

Treats of various remedies for *Macrodactylus subspinosus*.

Hop louse. (Country gentleman. June 30, 1887 52 : 511[24])

Gives remedies used in England against *Phorodon humili*.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1885. (State museum of natural history. 39th annual report. 1885. p. 77–125) [Published, July 6, 1887]

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Meal worm in salt. (Country gentleman. July 7, 1887. 52: 530[26])

Larvae in a sack of salt are identified as those of *Tenebrio molitor* Linn.

Four lined leaf bug on the currant. (Country gentleman. July 14, 1887. 52: 547[27])

Gives remedies for *Poecilocapsus lineatus*.

Elm leaf beetle. (Country gentleman. July 21, 1887. 52: 565[31])

Brief notice of *Galeruca xanthomelaena* [*Galerucella luteola*].

The Curculio on the apple. (Country gentleman. July 21, 1887. 52: 565[38])

Blackened pits in apples are identified as probably the work of *Conotrachelus nenuphar*.

An ichneumonized caterpillar. (Country gentleman. Sep. 1, 1887. 52: 673[35])

Identifies the cocoons of *Apanteles congregatus* on the larva of *Darapsa* [*Ampelophaga*] *myron*.

Milkweed beetle with bad habits. (Country gentleman. Sep. 1, 1887. 52: 673[42])

Records an attack by *Chelymorpha argus* on barley, corn and cabbage.

Blister beetle attack. (Country gentleman. Sep. 1, 1887. 52: 674[22])

Identifies *Epicauta cinerea* on *Clematis flammula*.

Harvest fly. (Country gentleman. Sep. 1, 1887. 52: 674[33])

Cicada tibicen is identified and briefly noticed.

Mites on arbor vitae. (Country gentleman. Sep. 1, 1887. 52: 674[34])

Gives remedies for mites [*Tetranychus telarius*] on arbor vitae.

Elm leaf spraying. (Country gentleman. Sep. 8, 1887. 52: 694[28])

Apparatus for spraying elms is described.

Pests of the pomologist. (Boston herald. Sep. 16, 1887. p. 3)

Abstract of an address delivered before the American pomological society.

Queer foe to the caterpillar. (New England homestead. Oct. 1, 1887. p. 354, col. 3)

Cocoons of *Apanteles congregatus* on the larva of *Darapsa* [*Ampelophaga*] *myron* are identified.

Value of crustaceans as food for fishes. (American angler. Oct. 8, 1887. p. 235)

Treats of the value of Crustacea, May flies, Phryganid larvae and other aquatic forms as food for fishes.

Two marked tree hopper. (Country gentleman. Oct. 13, 1887. 52:783[27])

Identifies a variety of *Enchenopa binotata* on *Juglans rupestris*.

Mites on arbor vitae. (Country gentleman. Oct. 20, 1887. 52:800[24])

Tetranychus telarius is the mite on arbor vitae.

Asparagus and pear blight beetles. (Country gentleman. Oct. 27, 1887. 52:817[32])

Gives remedies for *Crioceris asparagi* and *Xyleborus pyri* [*dispar*].

White grub attack on wheat. (Country gentleman. Oct. 27, 1887. 52:817[43])

Describes a species of white grub attacking wheat, apparently not that of *Lachnosterna fusca*.

Bag worm. (Country gentleman. Nov. 3, 1887. 52:837[26])

General account of *Thyridopteryx ephemeraeformis*, giving habits, life history and remedies.

Insects and yellows in the peach. (Country gentleman. Nov. 3, 1887. 52:837, col. 4, 22 cm)

Phloeotribus liminaris not the cause of yellows.

Grape insects in manure. (American garden. December 1887. 8:396)

Larvae living in manure, as those of *Ligyrus relictus*, do not feed on living plants.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1886. (New York state museum of natural history. 40th report 1887. p. 79–154. Also, separate, with cover and title page: same paging) [Published Jan. 20, 1888. Designated as '3d report of the state entomologist']

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Some pests of the pomologist. [From the American pomological society's report for 1887. Read before the A. P. S. at its Boston meeting, Sep. 1887] (Separates, quarto, with cover and title page, 13p.) [Published Mar. 1, 1888]

The paper presents the following headings: Progress in pomology; Evils attending progress in pomology; Need of scientific study; Demands of science on the pomologist; Immense fruit production—no overproduction; Large areas devoted to fruit crops; Increase in plant diseases; Increase of insect ravages; Food habits of insects; Change of food plants; Introduction from abroad; Spread of scale insects; Number of insect pests; An unknown currant insect; How insect ravages are to be met; Insecticides; Publications relating to fruit insects; Conclusion.

[Published, also, in the 4th report on the insects of New York. 1888. p. 183–92]

Remedies for scale insects. (Country gentleman. Mar. 1, 1888. 53: 169[25])

Gives the remedies for *Chionaspis furfurus* and notices *Chilocorus bivulnerus*.

[Injurious fruit insects of the vicinity of New York] (New York farmers. Proceedings. 1886–87. p. 52–59) [Published in March 1888]

The following insects are noticed: Apple maggot, *Trypeta pomonella;* apple worm of the codling moth; apple tree aphis; bark borers, *Xyleborus pyri* [*dispar*], *Scolytus rugulosus, S. obesus* [*Xyleborus dispar*]: plum curculio; peach tree borer; eight spotted Alypia on grape vines; currant worm; cabbage butterfly, *Pieris rapae;* and Colorado potato beetle.

Sulfur for the elm beetle. (Country gentleman. Mar. 15, 1888. 53: 209[26])

Futility of sulfur as a remedy for *Galerucella luteola*.

Pea weevil. (Country gentleman. Mar. 22, 1888. 53: 229[13])

General account of *Bruchus pisi* [*pisorum*].

Elm leaf beetle. (Country gentleman. Mar. 29, 1888. 53: 249[27])

Remedies are given for *Galerucella luteola*.

Our worst enemies — the bugs. (Country gentleman. Ap. 5, 1888. 53: 269[13])

Brief account of insect ravages and remedies for the same.

Striped flea beetle. (Country gentleman. Ap. 12, 1888. 53: 289[18])

General account of *Phyllotreta vittata* Fabr.

Unrecognized apple tree attack. (Country gentleman. Ap. 26, 1888. 53: 329[23])

Describes the injury to the limbs of an apple tree, subsequently referred to the oviposition of one of the flower crickets.

White flower cricket. (Country gentleman. Ap. 26, 1888. 53: 329[23])

Egg punctures in a Concord grape vine are those of *Oecanthus niveus* Serv.

Leaf hopper. (Vineyardist. May 1, 1888. 2: 113)

Injuries to grapes by *Erythroneura vitis* Harris [*Typhlocyba comes* Say, var.] and remedies.

To kill plant lice. (Farm and home. May 1, 1888. 9: 158, col. 4)

Gives the best method of fighting plant lice.

Bacon beetle attacks comb. (Bee keepers' magazine. May 1888. 16: 143–44)

Records the feeding on the wax of empty honeycomb by the larvae of *Dermestes lardarius* Linn.

Elm leaf beetle. (Country gentleman. May 10, 1888. 53: 366[37])

Brief notice of *Galeruca xanthomelaena* [*Galerucella luteola*] from Scarsdale, N. Y.

Friends, not foes. (Country gentleman. May 31, 1888. 53: 430[32])

Small beetles said to be injurious in hot beds to flower plants are *Tachys incurvus* Say and *Homalota lividipennis* Mann., neither of which could cause the injury.

Maple leaf mite gall. (Country gentleman. June 14, 1888. 53: 460[47]–611[11])

Describes the galls of *Phytoptus quadripes* Shimer, and gives remedies.

Grape vine pest. (Orange county farmer. June 21, 1888. 7: 5, col. 1)

Galls of *Lasioptera vitis* O. S. are described and remedies indicated.

Cockscomb elm gall. (Country gentleman. June 28, 1888. 53: 496[15])

Galls on the 'weeping slippery elm' are described and identified as those of *Colopha* [*Glyphina*] *ulmicola* Fitch.

Apple tree tent caterpillar — *Clisiocampa americana*. (Country gentleman. July 5, 1888. 53: 511[24])

Recommends removal of the egg belts or spraying with arsenites, and records its unusual abundance.

Honey dew on hickory leaves. (Country gentleman. July 5, 1888. 53: 511[25])

Honey dew is produced by plant lice or may result from a diseased condition of the leaves.

Grape leaf galls. (Country gentleman. July 5, 1888. 53: 511[46])

Galls from Worcester, Mass., are identified as those of *Lasioptera vitis*.

New pest threatens the hay crop. (Albany evening journal. July 7, 1888. p. 7)

Records injury to grass by a species of *Thrips*.

Stalk borer. (Country gentleman. July 12, 1888. 53: 532[17])

Larva from Rock Hall, Md., where it is known as the 'bud worm,' and infesting stalks of young corn is *Gortyna* [*Hydroecia*] *nitela* Guen. Remedies are given.

An entomological friend. (Orange county farmer. July 12, 1888. No. 45. 7: 8)

15 spotted lady bug, *Anatis 15-punctata* [*ocellata*] is identified and its beneficial habits given.

Ash grey blister beetle. (Country gentleman. July 19, 1888. 53: 547[22])

General notice of injuries to potatoes at Charlottesville, Va., by *Macrobasis unicolor* Kirby. The imported Spanish fly, *Cantharis vesicatoria*, is also noticed.

Insects on apple trees. (Country gentleman. July 19, 1888. 53:548[15])

So-called 'black knot' on apple trees is not caused by insects.

Light loving grape vine beetle—*Anomala lucicola.* (Country gentleman. July 26, 1888. 53:565[38])

Beetles from grape vines at Hightstown, N. J., are *Anomala lucicola* Fabr. Their general features are given and preventives of attack indicated.

Black long sting. (New England homestead, Aug. 4, 1888. 22:286, col. 5)

Thalessa atrata Fabr. and *T. lunator* Fabr. are characterized and their habit of preying on the larva of *Tremex columba* described.

Grape vine caterpillar—*Thyreus abbotii.* (Country gentleman. Aug. 19, 1888. 53:599[31])

General account of the food plants, life history and dimorphic larvae of this species is given.

Spittle insects. (New England homestead. Sep. 15, 1888. 22:333, col. 1–2)

Gives habits and injuries to grass by spittle insects.

Fly on the heads of cattle. (Country gentleman. Sep. 20, 1888. 53:705[47])

Brief notice of a fly attacking cattle [proves to be *Haematobia serrata.*]

Melon plant louse. (Country gentleman. Sep. 27, 1888. 53:725[26])

Notices an attack on muskmelon leaves by *Aphis cucumeris* [*gossypii*] and galls on the shoots produced by *Cecidomyia* [*Diplosis*] *cucumeris.*

Hag moth caterpillar. (Country gentleman. Sep. 27, 1888. 53:725[36])

Describes the caterpillar of *Phobetron pithecium* Sm.-Abb., and gives its food plants and habits.

An ichneumonizd caterpillar. Interesting case of parasitism. (Country gentleman. Sep. 27, 1888. 53:725[42])

Describes the cocoons of *Apanteles congregatus* Say on a sphinx larva, probably *Darapsa* [*Ampelophaga*] *myron* Cram., and records an interesting case of secondary parasitism by a Chalcid.

Thousand legged worms. (Country gentleman. Sep. 27, 1888. 53:725[47])

Worms destroying geraniums by eating their roots are identified as *Julus caeruleocinctus* Wood and remedies given.

Bee keeper's guide. (Country gentleman. Sep. 27, 1888. 53:727[34])

Notices the 13th edition of the *Manual of the apairy* by Prof. A. J. Cook.

Yellow necked apple tree caterpillar. (Country gentleman. Oct. 4, 1888. 53:743[42])

Caterpillars devastating apple trees are identified as *Datana ministra* Drury. Feeding habits and remedies are given.

Cow fly, horn fly or Texan fly. (Country gentleman. Oct. 11, 1888. 53:759[22])

A résumé of what was then known of the insect [*Haematobia serrata*].

Oak galls. (Country gentleman. Oct. 18, 1888. 53:775[25])

Small, round, pubescent galls on oak leaves are identified as those of *Neuroterus verrucarum* O. S.

Cow fly or Texas fly. (Country gentleman. Oct. 18, 1888. 53:779[35])

The fly [*Haematobia serrata*] is stated to be a species of *Stomoxys*.

Caterpillar on the chestnut. (Country gentleman. Oct. 18, 1888. 53:786[23])

Caterpillars from a Spanish chestnut tree are *Halisidota tessellaris* Sm.-Abb.

White grub of the May beetle. (New York state museum of natural history. Bulletin 5. November 1888. 31p., 5 fig.) [Reprinted, with additions, from the New York state agricultural society, 43d annual report. 1883. New York state agricultural society. Transactions. 1883–86. 34:5–33]

The following are the subheads of the paper: White grub. Egg—Injurious character of the insect—Injuries from the grub—Injuries by the beetle—Life history—Distribution—Its enemies—Preventives and remedies—Study of the insect desired.

Cut worms. (New York state museum of natural history. Bulletin 6. November 1888. 36 p., 28 fig.) [Reprinted, with additions, from the New York state agricultural society, 44th annual report. 1884–85. New York state agricultural society. Transactions. 1883–86. 34:66–100]

Contents: What are cut worms?; Their appearance; Their habits; Habits of the moths; Natural history; Conditions favorable to cut worms; Their food plants; Abundance of cut worms; Literature of cut worms; List of species; Natural enemies; Parasites; Preventives and remedies. Two preventives specially commended.

Red humped apple tree caterpillar. (Country gentleman. Nov. 22. 1888. 55:875[23])

General notice of *Oedemasia* [*Schizura*] *concinna* Sm.-Abb.

4th report on the injurious and other insects of the state of New York. Albany, The Troy press company, printers, 1889. [Issued November 23, 1888] 237 p., 68 fig. (From the New York state museum of natural history. 41st report. 1888. p. 123–358)

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A familiar pest. (New England homestead. Nov. 24, 1888. 22:421, col. 1–2)

Identifies the pupa of *Sphinx quinquemaculata* [*Phlegethontius celeus*] and gives life history briefly.

Identification of the cow fly—*Haematobia serrata*. (Country gentleman. Nov. 29, 1888. 53:893[27])

Reference of the species by Baron Osten Sacken, of Germany, to *Haematobia serrata* Rob.-Desv.

Wire worms. (Country gentleman. Nov. 29, 1888. 53:893[34], fig. 1–6)

Gives several of the best remedies for these pests.

Egg deposits of flower crickets. (Country gentleman. Dec. 6, 1888. 53:911[11])

Oecanthus niveus Harris, *Oecanthus fasciatus* DeGeer and *Pelidnota punctata* Linn. are noticed.

White marked tussock egg clusters. (Country gentleman. Dec. 6, 1888. 53:911[18])

Identifies the eggs of *Orgyia* [*Notolophus*] *leucostigma* Sm.-Abb. and notices a parasite, *Pimpla conquisitor* Say.

Transformations of *Sesia* [*Hemaris*] *buffaloensis* Gr.-Rob. (American entomological society. Transactions. 1888. 15:105)

Immature stages are described, the larvae being found on snowball.

Apple tree tent caterpillar. (Country gentleman. Ap. 4, 1889. 54:269[11])

Eggs of *Clisiocampa americana* on a peach twig are identified and the insect briefly noticed.

Apple tree bark louse. (Country gentleman. Ap. 4, 1889. 54: 269[22])

Gives the remedy for *Mytilaspis pomorum* Bouché.

Mite infesting dwellings. (Ohio farmer. Ap. 13, 1889. p. 274)

Reported infestation is referred with doubt to *Bryobia* species.

Remarkable display of eel worms. (Country gentleman. May 16, 1889. 54: 389[17])

Red appearance in a shallow stream at Saratoga Springs, N. Y., is found to be owing to the presence of myriads of small red worms belonging to the *Anguillulidae*.

Preserving insect specimens. (Country gentleman. May 23, 1889. 54: 409[28])

Directions are given for preparing a 'cyanide bottle' for the collection of insects.

Cabbage maggot. (Country gentleman. June 6, 1889. 54: 440[43])

An infusion of burdock, caustic lime applied to the roots, unleached ashes about the plant and kerosene emulsion are remedies recommended.

Apple tree worm. (Country gentleman. June 6, 1889. 54: 440[46])

Remedies are given for *Clisiocampa americana* and its ease of control commented upon.

Rose bug destroying peaches. (Country gentleman. June 6, 1889. 54: 441[11])

Gives remedies to be used against this insect, *Macrodactylus subspinosus*.

Rose leaf hopper. (Country gentleman. June 6, 1889. 54: 441[14])

Appearance of *Tettigonia* [*Typhlocyba*] *rosae* Harris and remedies.

[Forest tent caterpillar devastating maples.] (Albany evening journal. June 8, 1889)

Account of the ravages of *Clisiocampa sylvatica* [*disstria*] in a maple grove at Kingsbury, Washington co., N. Y.

Parasite on potato beetle. (Country gentleman. June 13, 1889. 54: 456[44]–57[12])

General notice of *Uropoda americana* Riley, a parasite of the potato beetle.

Grain aphis. (Country gentleman. June 13, 1889. 54: 457[17])

Records an attack on wheat at Allendale, Ill., by the grain aphis, *Siphonophora* [*Nectarophora*] *granaria*.

Apple tree flies. (Country gentleman. June 13, 1889. 54: 457[23])

Fly occurring 'by millions' on apple trees at Meadville, Pa. [June 4] is the white winged Bibio, *Bibio albipennis*.

Hop yard pest reappears. (Albany evening journal. June 20, 1889. p. 1; Utica morning herald. June 21, 1889; Fort Plain free press. June 25, 1889; Country gentleman, June 27, 1889. 54: 497[11])

Warning of attack by the hop aphis, *Phorodon humuli;* remedies given.

Currant aphis. (Country gentleman. June 20, 1889. 54: 474[31])

Gives remedies for aphis on currant stems, may be *Myzus ribis*.

Asparagus beetle. (Country gentleman. June 20, 1889. 54: 478[28])

Crioceris asparagi is identified and remedies given.

Grain aphis. (Country gentleman. June 27, 1889. 54: 496[33])

Identification of *Siphonophora avenae* [*Nectarophara granaria*] on wheat from LaGrange, Ill.

Insect depredations. (Country gentleman. June 27, 1889. 54: 496[48])

Remarks on the grain aphis injuring wheat in Indiana.

Our insect enemies and how to meet them. [An address before the New Jersey state board of agriculture, at its annual meeting at Trenton, Feb. 1, 1889. Camden, N. J., [July] 1889. 22 p.] (State board of agriculture. 16th report. 1888–89. p. 285–304)

Importance of agriculture—its present and future. Economic entomology. Importance of entomological study. Secrecy of insect depredations. Small size of insects. Number of insects. Rapidity of propagation. Voracity of insects. Can insect ravages be prevented? How to meet our insect enemies.

Early appearance of the common house fly and its fungus. (Albany evening journal. July 11, 1889)

Records the early appearance of *Musca domestica* and its fungus.

Corn worm. (New England homestead. July 13, 1889. 23: 237, col. 1)

Caterpillar of *Gortyna* [*Hydroecia*] *nitela* is identified feeding on the tassels of corn.

Insects on lima beans—squash bugs. (Country gentleman. July 18, 1889. 54: 543[22].)

The insect on beans can not be identified without examples. Cucumber beetle, *Diabrotica vittata*, and squash bug *Anasa tristis*, are noticed.

Remedies for the hop louse. (New England homestead. July 27, 1889. 23: 253, col. 6)

Gives several remedies for this insect, *Phorodon humuli*.

Yellow woolly bear. (New England homestead. July 27, 1889. 23: 253, col. 6)

Caterpillar, *Spilosoma virginica*, known in the winged state as 'the white miller' is identified.

White grub of the May beetle—*Lachnosterna fusca*. (New York state agricultural society. Transactions. 1883–86. [July] 1889. 34: 5–33, fig. 1–5)

Reprint, with additions, of Bulletin 5 of the New York state museum of natural history. For contents, see 5th report on the insects of New York, 1889. p. 308.

Cut worms. (New York state agricultural society. Transactions. [July] 1889. 34: 66–100, fig. 1–28)

Reprint, with additions, of Bulletin 6 of the New York state museum of natural history.

Aphididae or plant lice. (New York state agricultural society. Transactions. [July] 1889. 34: 101–15, fig. 1–9)

Reprint, with illustrations and additional matter, from the proceedings of the Western New York horticultural society. 1887. For contents, see 4th report on the insects of New York. 1888. p. 194.

Grain aphis. (Country gentleman. Aug. 1, 1889. 54: 579[22])

Heads of rye from Stone Ridge, N. Y., show attack by *Siphonophora avenae* [*Nectarophora granaria*].

Maple tree borer. (Country gentleman. Aug. 1, 1889. 54: 579[26])

Identifies the larvae infesting maples as probably those of *Glycobius* [*Plagionotus*] *speciosus* and gives the remedies.

Cow fly. (Country gentleman. Aug. 1, 1889. 54: 579[33])

Notices the cow fly, *Haematobia serrata*, and names several remedies.

Insects in wheat — not injurious. (Rural New Yorker. Aug. 3, 1889. 48: 509, col. 1–2)

States that the small, shining, black beetles in heads of wheat are *Phalacrus politus* Linn. They are scavenger beetles, and are not injurious.

Oak tree pruner. (Country gentleman. Aug. 29, 1889. 54: 651[38])

Notices the work of *Elaphidion parallelum* [*villosum*] in branches of red oak.

A bombarding beetle. (Country gentleman. Sep. 5, 1889. 54: 671[11])

Describes discharge of a 'bombardier,' its effects, and names *Brachinus fumans* as a common form.

Black blister beetle. (Country gentleman. Sep. 12, 1889. 54: 694[23])

Notices the work of *Epicauta pennsylvanica* DeGeer on chrysanthemums and gives remedies.

Mites in bran. (Country gentleman. Sep. 19, 1889. 54: 711[27])

Tyroglyphus siro in bran may be killed with carbon bisulfid.

Beech tree borer—*Aegeria* [*Sanninoidea*] *exitiosa*. (Country gentleman. Nov. 14, 1889. 54: 861[18])

Extended account of this insect is given.

Insects in cord wood. (Country gentleman. Nov. 14, 1889. 54: 862[34])

Sounds from wood stored in a dry cellar can not be identified from the description.

A horn tail and its enemies. Country gentleman. Nov. 21, 1889. 54: 881[25])

Treats of a maple borer, *Tremex columba* Linn. and its parasite, *Thalessa*.

5th report on the injurious and other insects of the state of New York. Albany, the Troy press company, printers, 1889. [Issued Nov. 23, 1889] 205 p., 50 fig. Also as report of the state entomologist to the regents of the University of the State of New York, for the year 1888. (State museum of natural history. 42d annual report of the trustees, for the year 1888 [Nov. 20, 1889]. p. 145–347, fig. 1–50)

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Bean weevil. (New England homestead. Dec. 21, 1889. 23:425, col. 2–3)

Gives several remedies for this insect.

Gypsy moth in Medford, Mass. (Country gentleman. Jan. 23, 1890. 55:69[25])

Comment on a notice in the New York world on the introduction in Medford of the European gypsy moth, *Ocneria* [*Porthetria*] *dispar*.

Insect pests of the state [New York.] (Albany evening journal. Jan. 23, 1890. 34:3)

Extract from an address before the Albany farmers' institute, held the above date.

Mites infesting smoked meats. (Orange judd farmer. Jan. 25, 1890. 7:63, col. 1–2)

Records an infestation of smoked hams in a provision house by *Tyroglyphus siro*. Several remedies are given.

Useful insects. (Country gentleman. Feb. 27, 1890. 55:170[37])

Eggs of the Carolina mantis are identified and its beneficial habits stated.

Singular fly. (New York times. Ap. 14, 1890. p. 5, col. 2; Albany daily press and knickerbocker. Ap. 15, 1890; Plattsburg [N. Y.] morning telegram. Ap. 23, 1890)

Records the abundance of *Chloropisca prolifica* Osten Sacken [*variceps* Loew] in a house in September.

Fighting the insect pests. (Albany evening journal. Ap. 16, 1890, 44 cm)

Report of a paper read before the Albany institute, Ap. 15, 1890, noticing a number of insects briefly.

Late experiences with insects injurious to the orchard and garden. [Read before the Western New York horticultural society, at its annnual meeting, Jan. 22, 1890] (Western New York horticultural society, proceedings at its 35th annual meeting, Jan. 22, 23, 1890. p. 16–35) Also, in separates, 20 p. [Ap. 22, 1890].

Treats of insecticides and fungicides combined and briefly of a number of insects.

Spraying for the curculio. (Country gentleman. Ap. 24, 1890. 55: 329[16])

Manner of spraying for the curculio.

Apple tree insects. (Country gentleman. Ap. 24, 1890. 55: 329[23])

Identifies the cocoons of the apple leaf Bucculatrix, *B. pomifoliella* Clem. and the eggs of the apple tree tent caterpillar, *Clisiocampa americana*.

Poisoning insects. (Country gentleman. May 1, 1890. 55: 347[12])

Directions are given for using paris green and london purple in water for spraying purposes.

Fly, *Chloropisca prolifica* [*variceps*]. (Country gentleman. May 1, 1890. 55: 349[23])

General notice of the insect in this country and abroad.

Voracity of the silk worm. (Albany times. May 8, 1890. p. 2)

Corrects gross errors about the weight of a recently hatched silk worm and the amount it consumes.

Spraying for fruit tree insects. (Country gentleman. May 22, 1890. 55: 407[41])

Arsenites are recommended for use in gardens provided they are not applied too strong.

Eggs in plum twig. (Country gentleman. May 22, 1890. 55: 407[47])

Deposit of eggs in a plum twig are doubtless those of some 'tree hopper' allied to *Ceresa bubalus*.

Australian lady bug. (New York times. May 23, 1890)

Notices *Vedalia* [*Novius*] *cardinalis* and its extermination of the Icerya scale.

[Eye spotted budmoth] (Albany evening journal. May 28, 1890. p. 6)

Describes the ravages and gives the remedy for this insect.

Insect strawberry pests. (New England farmer. June 4, 1890. p. 1)

Notices *Paria aterrima* [*Typophorus canellus*] and *Otiorhynchus ovatus*.

Wire worms on cabbage. (Country gentleman. June 5, 1890. 55: 450[45])

Mentions several species of wire worms attacking cabbage.

Grain aphis. (Country gentleman. June 12, 1890. 55: 470[85])

No method known of arresting a serious attack on rye by *Siphonophora avenae* [*Nectarophora granaria*].

Coleophora sp.—A new pear insect. (Popular gardening. June 1890. 5: 198, col. 1–2)

Records an attack by a case bearer on pears.

Pear blight beetle. (Popular gardening. June 1890. 5: 198, col. 2)

Notices an attack by *Xyleborus pyri* [*dispar*] in a pear orchard at Lockport, N. Y.

Quince blossom beetle. (Popular gardening. June 1890. 5 198, col. 2)

Records injury by a snapping beetle [*Limonius confusus*] to quince blossoms.

Peach bark borer. (Popular gardening. June 1890. 5: 198, col. 2)

No preventive of the attack of this Scolytid borer, [*Phloeotribus liminaris*], is known. Infested trees should be taken up and burned.

Grape vine flea beetle. (Popular gardening. June 1890. 5: 198, col. 2)

Remedies for this insect [*Haltica chalybea*] are given.

New enemy of the currant worm. (Popular gardening. June 1890. 5: 198, col. 2)

One of the large plant bugs, *Podisus cynicus*, preys upon it.

17 year locusts make their appearance. (Albany morning express. June 13, 1890. p. 2)

Capture of examples of *Cicada septendecim* reported at Tivoli, N. Y.

Grain weevil distributed. (Country gentleman. June 19, 1890. 55: 489[11])

Records the distribution of seed corn, badly infested with *Calandra oryza* Linn.

Sheep scab. (Country gentleman. June 19, 1890. 55:493[22])

Brief notice of the scab mite, *Psoroptes equi* [*communis*].

[Grain aphis] (New England homestead. June 21, 1890. 24:216, col. 6)

Grain aphis is quite prevalent in rye fields in New York and New Jersey.

[Insects killed by electric lights] (Albany evening journal. June 26, 1890, p. 5)

100,000, the estimated number of insects killed by one arc light in a single night.

Rose leaf hopper and rose slug. (Country gentleman. July 3, 1890. 55: 538[11])

Notices the injuries to roses by *Tettigonia* [*Typhlocyba*] *rosae* Harr. and the rose slug, *Selandria* [*Monostegia*] *rosae* Harr.

Sweet potato beetles. (Country gentleman. July 3, 1890. 55: 538[19])

Notices briefly *Cassida nigripes* and *Coptocycla aurichalcea* [*bicolor*].

New bug. [Destructive apple tree insect] (New England homestead. July 5, 1890. 24: 232, col. 4)

Caterpillar boring into the pith of the new wood of apple trees is identified as the eye-spotted bud moth, *Tmetocera ocellana*.

[Corn] cutworm. (Country gentleman. July 24, 1890. 55: 590[18])

Identifies the boll worm or corn worm of the southern states, *Heliothis armiger*, and gives a remedy.

Locust tree borer. (Country gentleman Aug. 14, 1890. 55: 644[16])

Gives several preventives of attack by *Cyllene robiniae*.

Syrphus fly. (Country gentleman. Aug. 14, 1890. 55: 644[33])

Rat tailed larva found in a cow stable may be a species of *Eristalis* (it proved to be *E. tenax* Linn.).

Elm tree beetle. (Country gentleman. Aug. 14, 1890. 55: 644[38])

Recommends spraying with paris green and killing larvae on the trunks.

[Collections in Keene Valley, N. Y] (Albany evening journal. Aug. 16, 1890. p. 6)

Brief notice of collections made in the Adirondacks by the state entomologist, and of a reported disease of pine trees near Keene Valley.

Insect parasites. (Country gentleman. Aug. 21, 1890. 55: 662[14])

Identifies *Apanteles congregatus* Say as a parasite of the green grape vine Sphinx.

Carpet beetle. (Country gentleman. Aug. 21, 1890. 55: 662[33])

Gives remedies for *Anthrenus scrophulariae*.

[Severe bite of a horse fly] (Albany evening journal. Aug. 28, 1890. p. 8)

Describes the effect of the painful bite of a horsefly, *Tabanus atratus*.

Curious jumping gall. (Popular science news. Aug. 1890. 24: 119. col. 1–3)

Curious insect from England is identified as probably the bedeguar of the hawthorn, *Cecidomyia crataegi* Winnertz.

Midge or punky of the Adirondacks. (Albany evening journal. Sep. 5, 1890. p. 5, col. 2)

Punky or 'the little gray gnat' is the name preferred for this insect.

[Mites infesting a water trough] (Albany evening journal. Sep. 5, 1890. p. 5, col. 2)

Mites occurring at Schodack Center, N. Y., are probably *Bryobia pratensis*.

Spittle insects. (Country gentleman. Sep. 25, 1890. 55: 759[44])

Gives characters and habits of spittle insects.

Mite parasitic on the house fly. (Albany evening journal. Oct. 1, 1890. p. 6, col. 2)

Some flies were infested with a red mite which is identified as *Trombidium muscarum* Riley.

Pear leaf blister. (Country gentleman. Oct. 2, 1890. 55: 781[35])

Identifies the work of *Phytoptus pyri* and gives remedies.

Weevils in rye. (Country gentleman. Oct. 2, 1890. 55: 782[23])

Weevil is probably *Calandra granaria*. Carbon bisulfid is recommended.

6th report on the injurious and other insects of the state of New York. Albany, James B. Lyon, state printer, 1890. [Issued Oct. 2, 1890] 110 p., 25 fig. Also as report of the state entomologist to the regents of the University of the State of New York, for the year 1889. (New York state museum of natural history. 43d report, for the year 1889, p. 99–206, fig. 1–25)

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Snails — slugs. (Country gentleman. Oct. 16, 1890. 55: 819[24])

Gives remedies for snails in mushroom beds.

Diseased Austrian pines. (Country gentleman. Oct. 16, 1890. 55: 820[24])

Cause of unhealthy condition not known. *Chionaspis pinifoliae* Fitch, a few black thrips and some mites are present, but could not have caused the injury.

Manual of injurious insects. (Country gentleman. Oct. 16, 1890. 55: 822[46]–23[16])

Notice of a new edition of Miss E. A. Ormerod's manual.

A guest to be welcomed in our homes. (Amsterdam [N. Y.] daily democrat. Nov. 1, 1890. p. 2, col. 5)

Larva of *Scenopinus fenestralis* Linn. does not injure woolens or other fabrics, but feeds only, so far as known, on the larvae and pupae of the clothes moth.

Bean weevil. (Country gentleman. Nov. 13, 1890. 55: 898[37])

Gives life history of *Bruchus obsoletus* [*obtectus*] and remedies.

Larch saw fly. (Country gentleman. Nov. 13, 1890. 55: 905[42])

Ravages of *Nematus* [*Lygaeonematus*] *erichsonii* Hartig are described and the remedy given.

Bot fly of the hare. (Country gentleman. Nov. 13, 1890. 55: 905[46]–6[12])

Notices *Cuterebra cuniculi* Fabr. and *Cuterebra emasculator* Fitch.

Insects infesting maple trees. (New England homestead. Nov. 15, 1890. 24: col. 4)

Imperfect description does not admit of identification.

Striped cucumber beetle. (Country gentleman. Nov. 20, 1890. 55: 925[44]–26[12])

Gives remedies for *Diabrotica vittata* Fabr.

Woolly bear caterpillar—*Pyrrharctia isabella*. (Country gentleman. Nov. 27, 1890. 55: 941[36])

A general account of its habits and life history.

Apple leaf bucculatrix. (Country gentleman. Dec. 4, 1890. 55: 962[33])

Small white cocoons on apple twigs are identified as those of *Bucculatrix pomifoliella*.

Squash bug. (Country gentleman. Jan. 8, 1891. 56: 33[15])

Gives the best remedies for this pest.

Grain weevil infesting mills. (Country gentleman. Jan. 15, 1891. 56: 47[17])

Recommends bisulfid of carbon for *Calandra granaria*.

Protection from insect injuries. (Albany morning express. Jan. 23, 1891. p. 2, col. 5) [Abstract of an address before the farmers' institute at Albany, Jan. 22, 1891]

General address on the losses caused by insects and means to be used against them.

Bacon beetle. (Country gentleman. Feb. 12, 1891. 56: 130[35])

Records *Dermestes lardarius* in soiled clothing.

Insectivorous birds. (Albany evening journal. Feb. 14, 1891. p. 6, col. 3)

Protecting the birds. (New York times. Feb. 15, 1891)

Remarks before the assembly committee on game laws, asking for such amendments and additions to the revised game law as shall protect birds beneficial to the agriculturist in the destruction of insect pests, and withholding protection from those which are detrimental; prominent among these last is the English sparrow.

Scale insects. (Country gentleman. March 26, 1891. 56: 257[25])

Leaves of oleander and camellia show attacks of scale insects—the former of *Aspidiotus nerii* Bouché and the latter of a species of ? *Parlatoria*.

Bark lice. (Country gentleman. Mar. 26. 1891. 56: 257[25])

Gives remedies for scale insects.

Blind crustacean from a well. (Albany evening journal. Mar. 27, 1891. p. 6, col. 2; New York times. Mar. 28, 1891. p. 2, col. 5)

Small crustacean infesting a driven well of moderate depth, is identified as *Crangonyx mucronatus* Forbes.

Injurious insects. (Country gentleman. Ap. 2, 1891. 56: 273[24])

Treats of a number of insect pests and insecticides.

Quince tree borer. (Country gentleman. Ap. 9, 1891. 56: 294[46])

Recommends soft soap and carbolic acid wash.

Honey dew on pear twigs. (Country gentleman. Ap. 16, 1891. 56: 317[11])

It has no connection with apple scab. Probably the trees had been attacked by *Psylla pyri* [*pyricola*].

Arsenic and honey — experiments. [Is arsenical spraying harmful to honey bees?] (Country gentleman. Ap. 16, 1891. 56: 317[15])

The liability of bees to be poisoned from blossoms sprayed with arsenites should be determined by experiment.

Entomology. (37th annual meeting of the western New York horticultural society. Proceedings. Jan. 28 and 29, 1891. April 1891. p. 10–17. Also, as separates, 8 p.)

Report of the society's committee on entomology, upon 'Spraying with insecticides,' and 'Some garden and orchard insects.' Topics embraced are: Effect of london purple on the plum. London purple on the peach. Solubility of london purple. An efficient nozzle for low spraying. Addition of lime to the arsenites. Fungicides combined with the arsenites. Spraying for the plum curculio. Spraying for the codling moth. New insecticidal machine. Insecticides lately recommended. Protection from the striped cucumber beetle. Apple curculio. Pear blight beetle. Rose bug. Marguerite fly. Bean weevil.

How to control the hop aphis. (New England homestead. May 2, 1891. 25: 193, col. 1)

Gives remedies and manner of applying them.

Apple tree insects of early spring. (Country gentleman. May 7, 1891. 56: 374[34]–75[11])

The following are noticed: apple aphis, *Aphis mali* Fabr.; apple tree case bearer, *Coleophora malivorella* Riley; eye spotted bud moth, *Tmetocera ocellana* Schiff.; apple leaf Bucculatrix, *B. pomifoliella* Clem.; pear tree Psylla, *Psylla pyri* [*pyricola*], and remedies given.

Orange leaf trouble. (Country gentleman. May 7, 1891. 56: 375[28])

Not caused by *Typhlodromus oleivorus*, but may possibly be owing to an attack by a species of *Lecanium* or *Ceroplastes*.

How to kill the rose bug. (New England homestead. May 9, 1891. 25: 205, col. 1)

Recommends hand picking or spraying with sludge oil soap solution.

[Cermatia centipede.] (Albany morning express. May 19, 1891. p. 55: 8, col. 1)

Pyrethrum recommended for the destruction of *Cermatia* [*Scutigera*] *forceps*.

Wire worms in corn. (Country gentleman. May 28, 1891. 56: 431[43])

Gives several methods of protecting recently planted corn.

Apple worm. (Country gentleman. May 28, 1891. 56: 438[27])

Carpocapsa pomonella breeds in pears, plums, peaches and apricots, in addition to the apple.

Wheat insects. (Country gentleman. May 28, 1891. 56: 438[33])

Identifies an attack on wheat as probably that of *Siphonophora avenae* [*Nectarophora granaria*].

Destructive to pears—A pest discovered in a Catskill orchard—*Diplosis pyrivora.* (Albany evening journal. May 30, 1891. p. 8, col. 1; Sun [N. Y.] June 1, 1891. p. 3, col. 5)

Records the occurrence of the pear midge in the Catskill orchards and points out its dangerous character.

Insect pests. (Oswego daily times. June 2, 1891. 49: 4, col. 2)

Notices a new case worm or Coleophora on apple, eye spotted bud worm, *Tmetocera ocellana,* apple leaf Bucculatrix, *B. pomifoliella* and *Aspidisca splendoriferella.*

Another formidable insect pest. (Oswego daily times. June 3, 1891 49: 5, col. 2–3)

Pear midge, *Diplosis pyrivora,* discovered at Catskill, N. Y. Gives its injuries, life history and methods of controlling it.

Melon and strawberry pests. (Country gentleman. June 4, 1891. 56: 457[17])

Treats of *Aphis cucumeris* [*gossypii*] and the flea like negro bug, *Corimelaena pulicaria* Germ.

Peach tree borer. (Country gentleman. June 4, 1891. 56: 457[23])

Gives a number of remedies for this insect.

A serious danger—New pest that threatens the pear crop. (New England homestead. June 13, 1891. 25: 249, col. 4)

Introduction of the pear midge, *Diplosis pyrivora,* injuries and remedies.

Gartered plume moth. (Country gentleman. June 18, 1891. 56: 497[31])

Brief account of *Oxyptilus periscelidactylus.*

[New onion pest] (Albany evening journal. June 19, 1891. p. 8, col. 5)

Notices *Agrotis ypsilon* Rott., or the black cut worm—a common and widespread species not previously reported on onions.

New strawberry pest. (Country gentleman. June 25, 1891. 56: 515[27])

Records *Serica tristis* LeConte, as a strawberry pest.

Lady bird and cherry aphis. (Country gentleman. July 2, 1891. 56: 537[17])

Notices black cherry aphis *Myzus cerasi,* and 15 spotted lady bird, *Anatis 15-punctata* [*ocellata*].

Beet insects. (Country gentleman. July 16, 1891. 56: 577[42])

The serious injury to beets is in part due probably to *Lygus pratensis*, species of flea beetles, and some leaf miner, probably a species of *Anthomyia*.

Apple aphis. (Country gentleman. July 16, 1891. 56: 578[19])

Severe attack of *Aphis mali* Fabr. is recognized and remedies given.

Pear tree psylla. (Country gentleman. Aug. 6, 1891. 56: 637[24])

General notice, giving introduction, distribution and remedies for *Psylla pyricola*.

Insects injuring red raspberries. (Rural New Yorker. Aug. 8, 1891. 50: 577, col. 3)

Caterpillar found on red raspberry is identified as *Synchlora rubivoraria* [*glaucaria*].

Pine beetle injuring linen. (Country gentleman. Aug. 27, 1891. 56: 706[11])

Records injury to linen by a beetle, probably a Ptinid, which was boring in pine shelving.

Foe of the Kilmarnock willow. (Orange county farmer. Sep. 3, 1891. 10: 1, col. 2)

Identifies the apple tree bark louse, *Mytilaspis pomorum* Bouché, on Kilmarnock willows and gives remedies.

New dairy pest. (Oswego semi-weekly times. Sep. 4, 1891. 2: 1, col. 1)

General account of the cow horn fly [*Haematobia serrata*] giving introduction, injuries and remedies.

Cow horn fly in New York. (Country gentleman. Sep. 10, 1891. 56: 735[22])

Gives injuries, distribution and remedies for *Haematobia serrata*.

Leaf eating beetle. (Country gentleman. Sep. 10, 1891. 56: 735[34])

Beetle taken on a cherry tree is *Euphoria fulgida* Fabr.

Elm leaf beetle. (Country gentleman. Sep. 10, 1891. 56: 735[35])

Larvae are probably those of *Galeruca xanthomelaena* [*Galerucella luteola*].

Grape curculio. (Country gentleman. Sep. 10, 1891. 56: 735[37])

Records injuries by the grape curculio, *Craponius inaequalis* Say, and gives a preventive.

Measuring worm. (Country gentleman. Sep. 10, 1891. 56: 735[43])

Caterpillar sent for name may be *Eutrapela* [*Sabulodes*] *transversata* Drury.

Rat tail larva. (Country gentleman. Sep. 10, 1891. 56: 735[45])

Rat tail larva is one of the *Syrphidae*, resembles *Helophilus latifrons*.

Locust mite. (Country gentleman. Sep. 24, 1891. 56: 775[15])

Locust mite, *Trombidium locustarum* Riley, is named, and its life history briefly given.

Cecropia caterpillar. (Country gentleman. Sep. 24, 1891. 56: 777[37])

Describes the markings and beauty of the Cecropia caterpillar.

An interesting caterpillar. (Country gentleman. Oct. 1, 1891. 56: 797[38])

Describes the cocoon of *Artace punctistriga* and gives briefly the features of Cerura caterpillars.

Grape vine leaf hopper. (Country gentleman. Oct. 8, 1891. 56: 815[27])

Mentions the leaf hoppers, *Erythoneura vitifex* Fitch [*Typhlocyba comes* Say] and *E. vitis* [*Typhlocyba comes* var.] with remedies.

[Extraordinary flight of moths] (Albany evening journal. Oct. 20, 1891. col. 5)

Records a flight continuing for two nights and a day of *Zerene* [*Cingilia*] *ca'enaria* Drury.

Squash bug. (Country gentleman. Oct. 22, 1891. 56: 854[43])

Anasa tristis DeGeer is identified and a brief sketch of its habits and transformations given.

A destructive potato aphis. (Country gentleman. Oct. 22, 1891. 56: 857[44])

Records serious injuries to potatoes by a plant louse.

White grubs. (Country gentleman. Oct. 29, 1891. 56: 875[46])

White grubs sent for name may be those of *Lachnosterna fusca* Fröhl.

Sprayed grapes are harmless. (Entomological news. Nov. 1891. 2: 181)

There is not a poisonous amount of copper on the grapes and their destruction was unwarranted.

Pear midge, *Diplosis pyrivora*, in New York. (Canadian entomologist. Nov. 1891. 23: 224)

Noticed for the first time in New York the present year at Catskill, N. Y.

On the eye spotted bud moth in western New York. (Canadian entomologist. Nov. 1891. 23: 231)

Abundance of *Tmetocera ocellana*, habits of the caterpillar, remedies.

On some of our Orgyias. (Canadian entomologist. November 1891. 23: 232)

Does *Orgyia* [*Notolophus*] *definita* occur at Albany? Is *O. nova* [*Notolophus antiqua*] identical with *O.* [*Notolophus*] *antiqua* of Europe?

Killing the pea weevil. (Rural New Yorker. Ap. 2, 1892. 51: 227, col. 2–3)

Bruchus pisi [*pisorum*] may be killed by heat or the vapor of bisulfid of carbon.

Early 'grasshoppers.' (Country gentleman. Ap. 14, 1892. 57: 286[43]–87[11])

Notices a very early appearance of the young of the green striped locust, *Chimarocephala* [*Chortophaga*] *viridifasciata* De Geer.

7th report on the injurious and other insects of the state of New York. Albany, James B. Lyon, state printer, 1891 [Issued May 8, 1892] 210 p., 40 fig. Also as report of the state entomologist for the year 1890. (New York state museum. 44th annual report, for the year 1890. p. 197–405, fig. 1–40)

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Cluster flies—*Pollenia rudis*. (Country gentleman. May 5, 1892. 57: 358[11])

The fly identified, its habits, features, and remedies for it given.

Slugs on pear trees. (Country gentleman. May 19, 1892. 57: 387[26])

An attack on pear trees is recognized as that of the pear tree slug, *Eriocampa cerasi* Peck [*Eriocampoides limacina* Retz.], and remedies given.

Cherry tree aphis on the wild goose plum. (Country gentleman. May 26, 1892. 57: 407[15])

Identifies *Myzus cerasi* Fabr. on the wild goose plum, and states that the species on the burning bush was probably *Aphis rumicis* Linn.

Scurfy bark louse. (Country gentleman. June 9, 1892. 57: 458[11])

Identifies *Chionaspis furfurus* Fitch and gives several remedies.

Harlequin cabbage bug. (Country gentleman. June 9, 1892. 57: 458[19])

General account of *Murgantia histrionica* Hahn with remedies.

Pear tree Psylla. (Science. June 17, 1892. 19: 343-44)

Notices injuries to pear trees by *Psylla pyri* [*pyricola*] and *Diplosis pyrivora*.

Apple tree tent caterpillar. (Country gentleman. June 23, 1892. 57: 492[11])

Gives remedies for *Clisiocampa americana* Fabr.

Aster and lily pests. (Country gentleman. June 23, 1892. 57: 492[15])

Injuries attributed to *Aphis middletonii* and thousand legged worms.

Cow horn fly. (Country gentleman. June 30, 1892. 57: 501[23])

The spread of *Haematobia serrata* is noticed and remedies given.

Meal worm—*Tenebrio obscurus*. (Country gentleman. June 30, 1892. 57: 501[28])

Notices the American meal worm, *Tenebrio obscurus* Fabr., and the European, *T. molitor*, with remedies.

Pear leaf blister. (Country gentleman. June 30, 1892. 57: 504[25])

Identifies the pear leaf blister mite, *Phytoptus pyri*, and gives remedies.

Injuries to a maple tree. (Country gentleman. July 21, 1892. 57: 552[27])

Identifies the maple tree borer, *Glycobius* [*Plagionotus*] *speciosus* and gives remedies.

Cauliflower pest. (Country gentleman. Aug. 11, 1892. 57: 600[33])

Pieris rapae is identified as injurious to the cauliflower and remedies given.

Pear eating beetle. (Country gentleman. Sep. 8, 1892. 57: 667[28])

Brief notice of *Euphoria inda* Linn. injuring pears.

Rose leaf caterpillar. (Country gentleman. Sep. 8, 1892. 57: 667[35])

Records *Parasa chloris* H.-S. on rose leaves.

Strawberry root grub. (Country gentleman. Sep. 8, 1892. 57:667[37])
Gives remedies for the white grub infesting strawberry roots.

Black blister beetle. (Country gentleman. Sep. 15, 1892. 57:689[33])
Food plants and remedies given for *Epicauta pennsylvanica* De Geer.

Hag moth caterpillar. (Country gentleman. Sep. 22, 1892. 57:709[37])
Peculiar features of the larva of *Phobetron pithecium* are given.

Remedy for the army worm. (Country gentleman. Oct. 6, 1892. 57:750[33])
Recommends ditching, barriers, poisoning strips, etc.

Weevil in a granary. (Country gentleman. Oct. 6, 1892. 57:750[35])
Describes manner of using bisulfid of carbon.

Spotted horn bug. (Country gentleman. Oct. 13, 1892. 57:767[37])
Records injuries by *Dynastes tityus* Linn. to ripe pears.

Cabbage worms. (Country gentleman. Oct. 13, 1892. 57:767[42])
Recommends sprinkling with corn meal.

Tent caterpillar. (Country gentleman. Oct. 13, 1892. 57:767[43])
Gives best remedies for this insect, *Clisiocampa americana.*

Kerosene emulsion. (Country gentleman. Oct. 13, 1892. 57:767[45])
Directions for preparing the emulsion are given.

Will the cow horn fly remain with us? (Country gentleman. Oct. 13, 1892. 57:769[42])
Haematobia serrata is no more injurious in this state than *Stomoxys calcitrans.*

Thrips attack on cabbage. (Country gentleman. Oct. 27, 1892. 57:809[27])
Records an attack on cabbage by a species of *Thrips* [probably *T. tabaci*].

Tischeria apple leaf miner. (Country gentleman. Oct. 27, 1892. 57:809[36])
General notice of *Tischeria malifoliella* Clem. with remedies.

Distribution of the pear Psylla. (Country gentleman. Nov. 3, 1892. 57:831[18])
Introduction and known distribution of *Psylla pyricola.*

Cow horn fly in New York. (Country gentleman. Nov. 10, 1892. 57:847[12])
Gives distribution in this state of *Haematobia serrata.*

Apple tree Bucculatrix. (Country gentleman. Dec. 22, 1892. 57:967[24])
Identifies *Bucculatrix pomifoliella.*

How to prevent the ravages of the cabbage maggot. (Gardening. Feb. 1, 1893. 1:155, fig. 1–3)

Names a number of remedies and preventives.

A destructive elm tree bark borer. (Garden and forest. Feb. 15, 1893. 6:76)

A general notice of *Saperda tridentata* Oliv. in the white elm and giving remedies.

Plant lice. (Country gentleman. Mar. 9, 1893. 58:186[37])

Methods of fighting root infesting aphids.

Angoumois moth — *Sitotroga cerealella*. (Country gentleman. Mar. 9, 1893. 58:188[44]–89[25])

General account of its history, distribution, injuries and remedies.

Report of the committee on entomology. (Western New York horticultural society. Proceedings, January 1893. p. 28–43. Also, separate with cover and title, Mar. 21, 1893. 16 p.) [Read before the society at its annual meeting, Jan. 26, 1893]

Notices the following: Destructive shade tree pests, gypsy moth, *Ocneria [Porthetria] dispar*, *Zeuzera pyrina*, and elm borer, *Saperda tridentata*.

Periodical cicada. (Country gentleman. Mar. 23, 1893. 58:226[35])

Predicts the appearance of *Cicada septendecim* in 1894, and gives means of preventing serious injury.

Mites attacking mushrooms. (Country gentleman. Mar. 23, 1893. 58:228[46]–29[14])

Notices several species of mites, among them being *Tyroglyphus rostroserratus* and *Bryobia pratensis*.

Flower crickets and apple twigs. (Country gentleman. Mar. 30, 1893. 58:246[24])

Comments on the oviposition of *Oecanthus niveus* and *Oecanthus fasciatus*.

Onion fly—*Phorbia ceparum*. (Country gentleman. Mar. 30, 1893. 58:246[28])

Onion fly compared with the cabbage fly, *Anthomyia [Phorbia] brassicae* Bouché and remedies given.

Miss Ormerod's report. (Country gentleman. Ap. 13, 1893. 58:289[21])

Brief review of Miss Ormerod's 16th report.

Myriapods and mites in scabby potatoes. (Country gentleman. Ap. 27, 1893. 58:329[12])

Records injuries to potatoes by a 'thousand legged worm,' *Julus caeruleocinctus* Wood, and *Rhizoglyphus phylloxerae*. The scab is caused by a fungus, *Oospora scabies* Thaxter.

Spraying for codling moth. (Country gentleman. Ap. 27, 1893. 58: 329[25])

Describes the method of spraying for this insect.

[Insects on lettuce and cabbage] (Gardening, May 1, 1893. 1: 264, col. 2)

Notices *Plusia simplex* on lettuce, *Plusia brassicae* and *Aphis brassicae* on cabbage.

Clover hay worm—*Pyralis costalis* Fabr. (Country gentleman. May 4, 1893. 58: 349[16])

General account of the life history, ravages and remedies.

When to spray. (Country gentleman. May 11, 1893. 58: 368[25])

Gives directions for preparing and applying insecticides for a number of common insects.

Clover leaf weevil. (Country gentleman. May 18, 1893. 58: 386[43]–87[11])

General notice of *Phytonomus punctatus*, giving its introduction, distribution and remedies.

Apple tree borer. (Country gentleman. May 18, 1893. 58: 387[11])

Identifies *Saperda candida* Fabr., refers to *Chrysobothris femorata* Fabr., and gives remedies.

Bud worm. (Country gentleman. May 18, 1893. 58: 387[16])

Recommends spraying with paris green for *Tmetocera ocellana*.

Danger to apple buds. (New York homestead. May 25, 1893. 27: 236, col. 4)

Tmetocera ocellana received from Lancaster, N. Y., remedies are given.

Pear midge. (Albany evening journal. May 30, 1893. p. 6, col. 5)

Records appearance of *Diplosis pyrivora* in Columbia and Greene counties in this state.

Invasion of plant lice in New York. (American farmer. June 1, 1893. 74: 1, col. 4)

Unusual abundance of the apple tree aphis, *Aphis mali*, and remedies for it and the hop aphis.

Apple tree aphis. (Country gentleman. June 8, 1893. 58: 449[23])

Brief notice of *Aphis mali*.

Some potato pests. (Country gentleman. June 8, 1893. 58: 449[27])

Treats of injuries to potatoes by the cucumber flea beetle, *Crepidodera* [*Epitrix*] *cucumeris* and *Julus caeruleocinctus*.

Greenhouse pest. (Gardening. June 15, 1893. 1: 313, col. 1–3)

General account of species of *Sciara* infesting greenhouses and mushroom beds [subsequently described as *Sciara coprophila* and *S. caldaria*].

Apple tree aphis. (American farmer. June 15, 1893. 74: 8, col. 6)

Impossible to predict injury by aphids. Gives remedies for plant lice and for *Tmetocera ocellana*.

Immense swarms of a butterfly. (New York homestead. June 22, 1893. 27: 273, col. 1–2)

Describes the swarming habit of the milk weed butterfly, *Danais archippus* Fabr. [*Anosia plexippus* Linn.]

New peach insect. (Country gentleman. June 29, 1893. 58: 508[24])

Records injuries to peaches by a plant bug, *Pentatoma juniperina* Linn.

Caterpillar on rye. (Country gentleman. June 29, 1893. 58: 508[28])

Identifies the larva of *Leucania albilinea* Hübn. on rye and mentions the army worm, *Leucania unipuncta*.

Hellgramite fly. (Country gentleman. June 29, 1893. 58: 508[32])

Describes the pupa of *Corydalis cornuta* Linn. and gives its habits and transformations briefly.

Ants on fruit trees. (Country gentleman. July 6, 1893. 58: 523[12])

Camponotus herculaneus Linn. and *Cremastogaster cerasi* Fitch are briefly noticed.

New grape vine pests. (Country gentleman. July 6, 1893. 58: 523[17])

Records severe ravages by *Anomala marginata* and gives remedies.

Ants on peonies. (Country gentleman. July 6, 1893. 58: 524[18])

Ants are probably merely drawn to the flowers for the purpose of feeding on the sweet secretion of the buds.

Three lined leaf beetle. (Country gentleman. July 6, 1893. 58: 524[25])

Gives the destructive habits of *Lema trilineata* in gardens, specially to potatoes.

Useful beetle. (Country gentleman. July 6, 1893. 58: 524[32])

Describes *Calosoma sycophanta* of Europe and compares it with our *Calosoma scrutator*, and gives their beneficial habits.

[Angoumois moth] (Orange county farmer. July 6, 1893. 12: 4, col. 5)

Identifies *Sitotroga cerealella* Oliv. and gives remedies.

[Wheat midge in central New York] (Albany evening journal. July 10, 1893. p. 8, col. 9)

Notices the presence of the insect [*Diplosis tritici*] and its earlier ravages.

Wheat head army worm. (Country gentleman. July 13, 1893. 58: 539[24])

Brief account of *Leucania albilinea* injuring timothy.

Zebra caterpillar. (Country gentleman. July 13, 1893. 58: 539[29])

Mamestra picta injuring the leaves and pods of peas, its feeding habits and remedies.

Wheat weevil. (Country gentleman. July 13, 1893. 58: 540[24])
Gives remedy for weevils in wheat.

Ground beetle. (Country gentleman. July 13, 1893. 58: 540[26])
States that larvae of ground beetles are most probably not injurious to roots of watermelons.

Maple tree borer. (Country gentleman. July 20, 1893. 58: 557[18])
Glycobius [*Plagionotus*] *speciosus* is identified and remedies indicated.

Insect on wistaria. (Country gentleman. July 20, 1893. 58: 557[25])
Describes the two spotted tree hopper, *Enchenopa binotata* Say, and gives remedies.

Elm leaf beetle. (Country gentleman. July 20, 1893. 58: 558[16])
Beetle is identified and a number of references given.

Water beetle. (Country gentleman. July 20, 1893. 58: 558[25])
Identifies *Dytiscus harrisii* Kirby and gives habits.

Silk worm moth. (Country gentleman. July 20, 1893. 58: 558[27])
Brief popular notice of *Telea polyphemus* Cramer.

Woolly plant louse. (Country gentleman. July 20, 1893. 58: 558[33])
The rather rare *Pemphigus acerifolii* Riley, is identified on maple, and remedies given.

Walnut span worm. (Gardening. Aug. 15, 1893. 1: 377, col. 2)
A 'brown worm' injuring black walnut trees in Kansas City is probably *Boarmia* [*Coniodes*] *plumigeraria* Hulst.

How to control the squash bug. (Gardening. Aug. 15, 1893. 1: 377–78, col. 3, 1)
Trapping the adults, *Anasa tristis*, destroying the young and eggs recommended.

Humming bird moth. (Country gentleman. Aug. 17, 1893. 58: 634[18])
Gives the characters of *Sesia uniformis* [*Hemaris thysbe* var. *ruficaudus*].

Bag worm. (Country gentleman. Aug. 17, 1893. 58: 634[35])
Bag worm or basket worm, *Thyridopteryx ephemeraeformis*, is identified.

Grain weevil. (Country gentleman. Aug. 31, 1893. 58: 674[33])
Describes the method of treating infested wheat.

Insects of the past year and progress in insect studies. [Read before the Albany institute Ap. 15, 1890] (Albany institute. Transactions. [August] 1893. 12: 227–40)
Treats of the grain aphis, *Siphonophora avenae* [*Nectarophora granaria*], hop aphis, *Phorodon humuli*, apple tree tent caterpillar, *Clisiocampa americana*, white marked tussock moth, *Orgyia* [*Notolophus*] *leucostigma*, forest tent caterpillar, *Clisiocampa sylvatica* [*disstria*], *Otiorhynchus ovatus* and *Silvanu surinamensis*.

Cabbage aphis. (Country gentleman. Sep. 14, 1893. 58: 717[13])

Aphis brassicae Linn. difficult to control, insecticides recommended.

Beetle destroying strawberry plants. (Albany evening journal. Sep. 27, 1893. p. 1, col. 6)

Records injuries to strawberry plants by *Paria aterrima* [*Typophorus canellus*].

Plugging trees with sulfur. (Country gentleman. Sep. 28, 1893. 58: 753[34])

Exposes the worthlessness of the 'sulfur cure' and cites experiment by Dr Fitch.

Black blister beetle attack on asters. (Gardening. Oct. 1, 1893. 2: 28, col. 3)

Records injuries to asters by *Epicauta pennsylvanica* DeGeer, and gives remedies.

Clover seed caterpillar. (Country gentleman. Oct. 5, 1893. 58: 773[16])

A general notice of *Grapholitha interstinctana* Clem., giving life history and remedies.

Grasshopper plague in New York. (Country gentleman. Oct. 12, 1893. 58: 793[18])

A general account of *Melanoplus femur-rubrum* and *M. atlanis*, with notice of their operations, associated species and remedies.

Potato beetle killer. (Orange county farmer. Oct. 19, 1893. 13: 1, col. 7)

Beetle sent as 'the new potato bug killer,' is identified as *Lebia grandis*.

Insect pests. (Gardening. Nov. 15, 1893. 2: 77)

In too poor condition to identify, one referred with doubt to *Sphinx drupiferarum*.

On arsenical spraying of fruit trees while in blossom. (Insect life. 1893. 6: 181–85)

Not proven [since demonstrated] that death of bees may be due to spraying with arsenicals. Recommends caution.

8th report on the injurious and other insects of the state of New York for the year 1891. Albany, University of the State of New York. 1893. [Issued Feb. 7, 1894] 218 p., 53 fig. (New York state museum, 45th annual report for the year 1891. Albany, University of the State of New York. 1892. [Issued in Feb. 1894] p. 103–320, fig. 53)

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Grubs destroying Mermet roses. (Florist's exchange. Feb. 10, 1894. 6:176, col. 1)

Grubs working at roots of roses are probably a species of *Lachnosterna*. Remedies are given.

9th report on the injurious and other insects of the state of New York, for the year 1892. Albany, University of the State of New York. 1893. [Issued Mar. 2, 1894] 211 p., 34 fig. (New York state museum, 46th report, for the year 1892. Albany, University of the State of New York. 1892. [Issued in March, 1894] p. 289–495, fig 34)

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Maple tree scale insect. (Gardening. Mar. 15, 1894. 2 : 206)

In the absence of examples the scale is identified as probably *Pulvinaria innumerabilis* Rathv. and remedies given.

Rose slug. (Gardening. Ap. 1, 1894. 2 : 230)

Gives remedies for common rose slug, *Monostegia rosae*, mentions bristly rose worm, *Cladius pectinicornis* Four., and curled rose worm, *Emphytus cinctus* Linn.

White worms at the roots of house plants. (Gardening. Ap. 15, 1894. 2 : 257, col. 2)

Recommends strong mustard water, tobacco or pyrethrum water.

Apple maggot — *Trypeta pomonella.* (Country gentleman. May 3, 1894. 59 : 349[18])

Identifies the insect and gives remedies.

The foe of shade trees. (Albany evening journal. May 7, 1894)

Notice of the elm borer, *Saperda tridentata*, giving remedies.

Cotton wood beetle. (Syracuse union. May 9, 1894. p. 2, col. 1)

Identifies *Lina scripta* Fabr., giving its earlier history and remedies.

Insect that kills the pine tree borers. (Gardening. May 15, 1894. 2 : 292, col. 2)

Notices the introduction of *Clerus formicarius* for the purpose of preying on *Dendroctonus frontalis.*

Probably white grubs. (Country gentleman. May 17, 1894. 59 : 386[22])

Recommends kerosene emulsion for white grubs in a lawn.

Periodical cicada, or the 17 year locust. (Issued as a circular of four pages. Albany. June 19, 1894)

Brief general account of *Cicada septendecim* and *C. tredecim.*

Pear leaf blister mite. (Country gentleman. June 21, 1894. 59 : 468[41])

Identifies an attack by *Phytoptus pyri* and gives remedies.

Chestnut weevil. (Country gentleman. July 5, 1894. 59 : 504[16])

The 'chestnut worm' is identified as probably *Balaninus caryatrypes* [*proboscideus*].

Rose bugs. (Country gentleman. July 5, 1894. 59 : 504[17])

Recommends collecting by mechanical devices as described by Dr Smith.

Friendly insects. (Country gentleman. July 5, 1894. 59 : 504[22])

Identifies the twice stabbed lady bird, *Chilocorus bivulnerus* Muls., and describes its beneficial habits.

Hellgramite fly. (Country gentleman. July 12, 1894. 59 : 520[23])

Corydalis cornuta identified. Its larva is known to fishermen as 'the dobson.'

Plant lice at the roots of asters, etc. (Gardening. July 15, 1894. 2 : 358, col. 1)

Root lice attacking asters, chrysanthemums and other plants are probably *Aphis middletonii* Thos., several remedies are given.

Ants in strawberry beds. (Country gentleman. Aug. 2, 1894. 59 : 568[13])

Recommends bisulfid of carbon for the destruction of their nests or hills.

Grape vine caterpillar. (Country gentleman. Aug. 2, 1894. 59:568[16])

Identifies *Thyreus abbotii* and refers one 'looking like a snake with the head of a frog' to the Geometridae.

Enemies of the potato beetle. (Country gentleman. Aug. 2, 1894. 59:568[25])

States that there are many enemies of the Colorado potato beetle.

Elm leaf beetle. (Country gentleman. Aug. 16, 1894. 59:600[25])

Spraying the foliage with paris green or london purple is recommended.

Above ground buildings of the 17 year cicada. (New York daily tribune. Aug. 21, 1894. p. 12, col. 2)

Brief abstract of a paper read before the American association for the advancement of science.

Worm destroying canna leaves. (Florist's exchange. Sep. 8, 1894. 6:788)

Insects are identified as *Pamphila* [*Calpodes*] *ethlius* and as probably the common *Spilosoma* [*Pyrrharctia*] *isabella*.

Sumac galls. (Country gentleman. Sep. 20, 1894. 59:686[14])

Brief notice of an aphis, *Melaphis rhois* Fitch, and its galls on *Rhus glabra* and *R. typhina*.

Box elder plant bug. (Country gentleman. Sep. 27, 1894. 59:699[26])

Insect on the city sidewalks of Shenandoah, Iowa, is identified from the description as *Leptocoris trivittatus* Say.

Beetle feeding on green corn. (Country gentleman. Sep. 27, 1894. 59 : 701[24])

Beetle, *Euphoria inda* Linn., feeding on the tips of standing sweet corn, is noticed briefly.

Muskmelon borers at the south. (Country gentleman. Oct. 4, 1894. 59:721[26])

General account of the two melon boring caterpillars in the southern states, *Eudioptis* [*Margaronia*] *nitidalis* Cram. and *E.* [*Margaronia*] *hyalinata* Linn.

Pear rust. (Country gentleman. Oct. 4, 1894. 59:722[17])

Pear shows a rust which may have been caused by a mite, possibly *Phytoptus pyri.*

'Pear rust'—cause unknown. (Country gentleman. Oct. 25, 1894. 59:773[31])

The above is probably but an unusual development of its natural rust.

Indian Cetonia. (Gardening. Nov. 1, 1894. 3:55–56, col. 3, 1)

Gives the habits of *Euryomia* [*Euphoria*] *inda* and states that the reported injury to the bark of young pear trees is confirmatory of an earlier statement.

Injurious beetles. (Gardening. Nov. 1, 1894. 3:56, col. 1–2)

Brief notice of *Euryomia* [*Euphoria*] *inda*, *Cyllene robiniae* Forster and *Glycobius* [*Plagionotus*] *speciosus* Say.

Maple tree borer. (Gardening. Nov. 1, 1894. 3:56, col. 2)

Identifies the pupal case of *Aegeria* [*Sesia*] *acerni* Clem and gives remedies.

Squash bug. (Gardening. November 1, 1894. 3:56, col. 2, 3)

Gives several remedies for the squash bug, *Anasa tristis* De Geer.

Report of the state entomologist to the regents of the University of the State of New York, for the year 1893. Albany. November 1894. 26 p.

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San José scale. (Albany evening journal. Nov. 7, 1894. p. 6, col. 5)

Notes the finding of *Aspidiotus perniciosus* in a pear orchard at Kinderhook N. Y., and gives its distribution.

'North Dakota's new bug.' (Country gentleman. Nov. 22, 1894. 59: 841[26])

Records *Leptocoris trivittatus* Say from Jamestown, N. D., with a brief notice of the insect.

Experiment station work on Long Island. (American agriculturist. Dec. 1, 1894. 54: 404, col. 1)

Brief notice of the important work done on Long Island.

Grubs in manure. (Country gentleman. Dec. 27, 1894. 59: 931[42])

White grubs in manure are identified as those of *Ligyrus relictus*.

Ants in a lawn. (Country gentleman. Jan. 3, 1895. 60: 9[13])

Gives several means of destroying ants in nests.

Apple tree aphis. (Country gentleman. Jan. 10, 1895. 60: 27[11])

Indicates proper remedies for *Aphis mali* and notices the pear Psylla.

Apple tree bark louse. (Country gentleman. Jan. 10, 1895. 60: 27[23])

Recommends kerosene emulsion for *Mytilaspis pomorum* and gives its many food plants.

Colorado beetles. (Country gentleman. Jan. 10, 1895. 60: 30[23])

Gives dates of appearance of *Doryphora* 10-*lineata* in several localities in this state.

Attacking scale insects. (Country gentleman. Feb. 7, 1895. 60: 108[23])

Recommends winter treatment with a whale oil soap solution.

Garden slugs. (Country gentleman. Feb. 21, 1895. 60: 147[13])

Best remedy is freshly slacked lime or lime water applied to them while feeding during morning or evening.

Rhinoceros beetle. (Country gentleman. Mar. 21, 1895. 60: 230[17])

Identifies *Dynastes tityus* and gives its habits.

Bounty on the English sparrow. (Albany evening journal. Mar. 21, 1895. p. 8, col. 4, 23 cm; Scientific american. Ap. 27, 1895)

An argument against a bounty on this bird, since it would tend to drive it into the country.

Vermicides [insecticides for vermin] (Country gentleman. Ap. 4, 1895. 60: 266[42])

Recommends Buchan's carbolic soap and Little's chemical fluid for killing vermin on cattle, sheep and lambs.

English sparrow. (Country gentleman. Ap. 11, 1895. 60: 285[28])

Substantially the same as in the *Albany evening journal*, Mar. 21, 1895, of which an abstract is given above.

Some destructive shade tree pests. (State of New York — Department of public instruction, arbor day manual. May 3, 1895. Albany, Ap. 6, 1895. p. 13–17, fig. 6)

Notices elm leaf beetle, *Galerucella xanthomelaena* [*luteola*], Orgyia tussock caterpillar, *Orgyia* [*Notolophus*] *leucostigma*, leopard moth, *Zeuzera pyrina*, maple tree scale, *Pulvinaria innumerabilis*.

Bad scale on currant bushes. (Gardening. May 15, 1895. 3:263, col. 2)

Identifies *Aspidiotus ancylus* Putnam on currant bushes and gives remedy.

Currant aphis. (Gardening. May 15, 1895. 3:263, col. 3)

Gives remedies and preventives for *Myzus ribis* Linn.

Bean weevil. (Country gentleman. May 16, 1895. 60:389[15])

Describes methods of destroying weevils in beans.

Bean weevil. (Country gentleman. May 23, 1895. 60:408[32])

Eggs deposited on pods and no preventive of this is known.

Millepedes and wire worms. (Country gentleman. May 30, 1895. 60:423[16])

Indicates several preventives and remedies.

Carpet eating insects. (Country gentleman. May 30, 1895. 60:423[32])

Notices *Tinea pellionella* and *Attagenus piceus*, the black carpet beetle, with remedies.

Plum tree aphis. (Gardening. June 1, 1895. 3:281, col. 3)

Identifies an attack as due probably to *Aphis prunifoliae*, and gives remedies.

Cut worms. (Country gentleman. June 6, 1895. 60:440[32])

As there are 50 or more species, no general remedy can be given for them, and reference is made to Museum bulletin 6, 'Cut worms.'

Manual for the study of insects. (Nation. June 6, 1895. No. 1562, 60:451, col. 1, 2, 3.)

Review of the above named volume by Prof. J. H. Comstock and Anna Botsford Comstock, O. 701 p., 6 pl. and 797 fig.

San José scale, *Aspidiotus perniciosus*, and some other destructive scale insects of the state of New York. (New York state museum. Bulletin vol. 3, no. 13, April 1895. Published June 11, 1895, 44p., 7 pl.)

As introductory, 'What scale insects are,' is told. The destructive New York scale insects noticed are: apple tree bark louse; scurfy barklouse; pine leaf scale insect; white scale; maple tree scale insect; and plum tree scale insect. Of the San José scale is given: Introduction and spread; Occurrence in the eastern United States; Investigations by the U. S. Department of agriculture; San José scale in New York; San José scale on Long Island; San José scale in New Jersey; The two infested New Jersey nurseries; San

José scale in Ohio; Description of the scale; Description of the insect; Its life history; its food plants; Spread of the insect; Protection from infested stock; Proposed legislation; Remedies; Bibliography; Plates and their explanations.

Asparagus beetle goes north. (Country gentleman. June 13, 1895. 60: 455[13])

Remarks on the northern extension of *Crioceris asparagi* and its probable limitation by the upper austral life zone.

Pear midge. (Country gentleman. June 13, 1895. 60: 456[26])

Records presence of *Diplosis pyrivora* at Millbrook, N. Y., and gives remedies.

Pear midge again. (Country gentleman. June 20, 1895. 60: 472[18])

Diplosis pyrivora is received from Poughkeepsie, N. Y.

New maple tree insect. (Country gentleman. June 27, 1895. 60: 484[48]-85[14])

Larvae of a Tortricid moth, burrowing the stems of maple leaves are those of *Steganoptycha claypoliana*.

Plum tree scale. (Country gentleman. June 27, 1895. 60: 485[15])

Brief notice of *Lecanium juglandifex* Fitch [erroneous reference of *L. prunastri* Fonsc.].

Elm leaf beetle. (Albany evening journal. July 20, 1895. p. 3, col. 1)

Brief general notice of *Galerucella luteola* in Albany.

Elm leaf beetle. (Country gentleman. Aug. 1, 1895. 60: 568[14])

Identifies *Galerucella xanthomelaena* [*luteola*] and gives remedies.

Horn tail borer. (Country gentleman. Aug. 1, 1895. 60: 568[17])

Notices briefly *Tremex columba*, *Thalessa atrata* and *T. lunator*.

Orchard insects. (Country gentleman. Aug. 1, 1895. 60: 568[26])

No satisfactory reply can be given to such a general inquiry.

Black peach aphis. (Country gentleman. Aug. 8, 1895. 60: 583[21])

Destructiveness of *Aphis persicae-niger* [*prunicola* Kalt.] its life history and remedies.

Sugar maple borer. (Country gentleman. Aug. 8, 1895. 60: 583[26])

Identifies *Glycobius* [*Plagionotus*] *speciosus* and gives remedies and preventives.

New scale insect. (Country gentleman. Aug. 8, 1895. 60: 585[23])

Scale from Loudonville, N. Y., on the Camperdown elm, is *Gossyparia ulmi*.

Harlequin cabbage bug. (Country gentleman. Aug. 15, 1895. 60: 595[25])

Injuries by *Murgantia histrionica*, its spread and remedies.

Carpet beetle. Country gentleman. Aug. 15, 1895. 60: 599[31])

Brief notice of *Anthrenus scrophulariae*, giving its habits, life history and remedies.

A pugnacious caterpillar. (Gardening. Aug. 15, 1895. 3:364. col. 3)
Describes the larva of *Thyreus abbotii*, and gives its habits.

Insect attack on maples (Gardening. Aug. 15, 1895. 3:364, col. 3)
Attack on center shoots of cut leaf maples can not be identified without examples.

Insect gall. (Gardening. Aug. 15, 1895. 3:366, col. 1)
A 'tiny green burr' taken from a sweet briar in Georgetown, Ky., is a gall made by one of the gall flies of the genus *Rhodites*.

Another note of warning [against the elm leaf beetle]. (Albany evening journal. Aug. 20, 1895. p. 8, col. 5)
Records a second brood of *Galerucella luteola* in Albany and gives remedies.

Caterpillars and borers. (Country gentleman. Aug. 29, 1895. 60:632[23])
Gives remedies for apple tree tent caterpillars and borers.

Black blister beetle. (Country gentleman. Aug. 29, 1895. 60:632[34])
Insect on china asters is the black blister beetle, *Epicauta pennsylvanica* DeGeer. Remedies are indicated.

Scale insect on osage orange hedge. (Gardening. Sep. 15, 1895. 4:11 col. 3)
Identifies *Pulvinaria innumerabilis* and gives remedies.

To kill red ants in the house. (Gardening. Sep. 15, 1895. 4:12, col. 1)
Gives several remedies for *Monomorium pharaonis*.

A friend, not a foe. (Country gentleman. Sep. 19, 1895. 60:685[15])
Describes the beneficial habits and value of the larva of a lady bug, *Hippodamia convergens*.

Humbug insect cure. (Country gentleman. Sep. 19, 1895. 60:687[11])
Exposes the old remedy of plugging trees with sulfur.

Squash bug. (Country gentleman. Sep. 19, 1895. 6:687[16])
Gives best remedy for *Anasa tristis*.

Squash bugs — squash vine borers. (Country gentleman. Oct. 3, 1895. 60:719[16])
Comparative injury to crops by the two insects. Desirability of preventing attack.

Frail children of the air: Excursions into the world of butterflies: by S. H. Scudder. (Nation. Oct. 17, 1895. No. 1581, p. 280–81, col. 3, 1)
Brief notice of the more interesting features of this delightful volume.

Natural history of aquatic insects: by Prof. L. C. Mial, F. R. S. (Nation. Oct. 31, 1895. No. 1583, p. 317–18, col. 3, 1)
Review emphasizing the value of the original matter published in this work.

Box elder plant bug. (Country gentleman. Oct. 31, 1895. 60 : 786[18])
Identifies *Leptocoris trivittatus* Say from McGregor, Ia.

On the girdling of elm twigs by the larvae of *Orgyia* [*Notolophus*] *leucostigma* and its results. (American naturalist. January 1896. 30 : 74–75)
Records the peculiar twig girdling habit of the larva.

Wire worms in corn. (Country gentleman. Feb. 20, 1896. 61 : 144[12])
Gives several remedies.

Solution for killing worms. (Gardening. Mar. 15, 1896. 4 : 199[24])
Recommends several insecticides for millepedes.

Apple maggot—*Trypeta pomonella*. (Gardening. Ap. 1, 1896. 4 : 218[24])
Brief general account, giving life history and remedies.

Apple maggot. (Country gentleman. Ap. 2, 1896. 61 : 270[36])
Identifies *Trypeta pomonella* and gives proper remedies.

Cheese skipper. (Country gentleman. Ap. 9, 1896. 61 : 293[22])
Brief general account of the meat skipper, *Piophila casei* Linn., giving life history and remedies.

Scale insects. (Gardening. Ap. 15, 1896. 4 : 234, col. 1)
Notices briefly *Mytilaspis pomorum* and *Chionaspis furfurus* and gives remedies.

Southern corn root worm. (Country gentleman. Ap. 30, 1896. 61 : 353[17])
General account of 'the 12 spotted Diabrotica,' *D. 12-punctata* Oliv., and the northern corn root worm, *Diabrotica longicornis* Say, giving injuries and remedies.

Thousand legged worms infesting greenhouses. (Gardening. May 1, 1896. 4 : 251–52, col. 2–3, 1)
General account of a species of millepedes [subsequently referred to *Leptodesmus*], and giving a number of remedies.

Handbook of British lepidoptera. By Edward Meyrick. (Nation. May 14, 1896. 62:385, col. 2–3)
General review of this work.

Elm leaf beetle. (Country gentleman. May 14, 1896. 61:386[38])
Galerucella xanthomelaena [*luteola*] identified from Gaylordsville, Ct.

Harlequin cabbage bug. (Gardening. May 15, 1896. 4:266, col. 2–3, 26 cm)
Murgantia histrionica is identified and its spread over the country noticed.

Plum mite. (Country gentleman. May 21, 1896. 61:406[22])
Galls on a Chickasaw plum are identified as possibly those of *Phytoptus pruni* Amerl.

The 'Fire worm.' (Country gentleman. May 28, 1896. 61 : 431[37])

Records the resistance of the canker worm, *Anisopteryx* [*Paleacrita*] *vernata* Peck, to paris green.

On the girdling of elm twigs by the larvae of *Orgyia* [*Notolophus*] *leucostigma* and its results. (American association for the advancement of science. Proceedings 44th meeting, held at Springfield, Mass., August–September 1895, May 1896, p. 156, 5 cm)

Brief abstract of the paper under the above title was published in the American naturalist, January 1896.

Fruit tree aphids. (Country gentleman. June 11, 1896. 61 : 466[37])

Notices the cherry tree aphis, *Myzus cerasi* Fabr. and one on plum, *Aphis prunifoliae* Fitch, and gives remedies.

[Kill the larvae of the elm leaf beetle.] (Albany evening journal. June 24, 1896, p. 4, col. 4)

Recommends killing the larvae and pupae of *Galerucella luteola* with hot water or kerosene.

[Report on the work of the gypsy moth committee after an examination made in June 1893.] (Gypsy moth, *Porthetria dispar* Linn.—Report of the work by E. H. Forbush & C. H. Fernald [June] 1896, appendix D, p. 32–35.)

Report commending the work of the committee and recommending more liberal appropriations and the importation of parasites.

Elm tree beetle in Albany. (Albany express. July 1, 1896)

Gives the progress of the insect up the valley of the Hudson river.

Rose bugs. (Gardening. July 1, 1896. 4 : 311, col. 2)

Recommends the destruction of this insect on its breeding grounds when they are known.

10th report on the injurious and other insects of the state of New York for the year 1894. Albany, University of the State of New York, 1895. [Issued July 8, 1896.] 297 p., 4 pl., 24 fig. Also as report of the state entomologist for the year 1894. (New York state museum. 48th report, for the year 1894. Albany, University of the State of New York, 1895, 297 p., 4 pl., 24 fig.)

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Army worm invasion. (Argus [Albany]. July 8, 1896. p. 8, col. 3; the same, in part New York recorder. July 15, 1896; Country gentleman. July 16, 1896. 61 : 552[12]; Rome sentinel. July 17, 1896; Circular of the department of agriculture of the state of New York)

Records injury by *Leucania unipuncta* and indicates remedies.

Wire worm. (Country gentleman. July 9, 1896. 61 : 540[18])

Gives several remedies for these insects.

Army worm invasion. (New York daily tribune. July 18, 1896)

Notice of *Leucania unipuncta* and remedies.

Tent caterpillar. (Country gentleman. July 23, 1896. 61 : 571[46])

Identifies the apple tree tent caterpillar, *Clisiocampa americana*.

Army worm. (Country gentleman. July 23, 1896. 61: 574[33])
Ravages of *Leucania unipuncta* and remedies.

Cut worms and borers. (Country gentleman. July 30, 1896. 61: 591[14])
Gives several remedies for these pests.

More about the army worm. (Country gentleman. Aug. 6, 1896. 61: 606[12])
General notice of *Leucania unipuncta* and its parasites.

Snapping bugs. (Country gentleman. Aug. 6, 1896. 61: 610[14])
Recommends several baits for attracting these beetles.

Blister beetles. (Country gentleman. Aug. 13, 1896. 61: 624[33])
Notices the margined blister beetle, *Epicauta cinerea* Forst. and the striped blister beetle, *Epicauta vittata* Fabr.

Willow butterfly. (Country gentleman. Aug. 27, 1896. 61: 666[18])
Records injury to trees at Whitehall, N. Y. by *Vanessa* [*Euranessa*] *antiopa*.

Caterpillars and parasites. (Country gentleman. Aug. 27, 1896. 61: 670[17])
Brief notice of the larva of *Ampelophaga myron* Cram. and its common parasite, *Apanteles congregatus*.

Oak pruner. (Country gentleman. Sep. 3, 1896. 61: 682[45])
Identifies an attack on maples by *Elaphidion parallelum* [*villosum*].

Beech tree blight. (Country gentleman. Sep. 10, 1896. 61: 705[43])
General notice of *Schizoneura imbricator* Fitch on beech leaves, describing the insect and indicating the remedies.

Elm tree borer. (Country gentleman. Sep. 24, 1896. 61: 746[16])
Saperda tridentata Oliv. is identified and several remedies given.

Cecropia moth. (Country gentleman. Sep 24, 1896. 61: 746[21])
The cocoon of this moth, *Attacus* [*Samia*] *cecropia*, is described.

Imported scale insects. (Country gentleman. Sep. 24, 1896. 61: 746[38])
Brief comment on the reported importation of *Diaspis lanatus* [*amygdali*] and the importance of quarantine regulations.

Pea bugs. (Country gentleman. Oct. 1, 1896. 61: 763[37])
Chloroform or bisulfid of carbon are recommended for *Bruchus pisorum*.

Rose leaf hopper. (Country gentleman. Oct. 1, 1896. 61: 763[44])
Gives several remedies for *Typhlocyba rosae* Harris.

Wheat wire worm. (Country gentleman. Oct. 22, 1896. 61: 826[14])
Agriotes mancus Say is identified and remedies given.

Apple tree borers. (Country gentleman. Dec. 10, 1896. 61: 949[24])
Brief general notice of *Saperda candida* Fabr. and *Chrysobothris femorata* Fabr. and remedies for them.

Notes on some of the insects of the year in the state of New York. (U. S. Dep't agriculture, Division entomology. Bulletin 6, new ser., 1896, p. 54–61)

Notes on the following insects: *Leucania unipuncta, Leucania albilinea, Anisopteryx* [*Palecrita*] *vernata, Cacoecia rosaceana, Nolophana* [*Balsa*] *malana,* Cecidomyiid larva on choke cherry, *Euphoria inda, Elaphidion villosum, Crioceris asparagi. Macrobasis unicolor,* Chinch bug, *Aspidiotus perniciosus, Kermes galliformis* and *Gossyparia ulmi.*

Elm leaf beetle. (Country gentleman. Jan. 7, 1897. 62 : 7[43])

Corrections of a very erroneous article on this insect.

11th report on the injurious and other insects of the state of New York for the year 1895. Albany, University of the State of New York, 1896. [Issued Jan. 21, 1897] 246 p. (85–330), 16 pl., 25 fig. Also as report of the state entomologist for the year 1895. (New York state museum. 49th report for the year 1895. Albany, University of the State of New York, 1897. [Issued in October 1897], 245 p., 16 pl., 25 fig.)

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Two insects. (Country gentleman. Feb. 11, 1897. 62: 106[42])

Notices the warble flies, *Hypoderma bovis* De Geer and *H. lineata* Villers, and the buffalo fly, *Haematobia serrata* Rob.-Desv.

Potato bugs. (Country gentleman. Feb. 18, 1897. 62:126[33])

Gives remedies for Colorado potato beetle.

Carbon bisulfid for pea weevil—A serious danger. (Farmer's advocate. Mar. 15, 1897. 32 : 130, col. 3)

Directions for using this insecticide are given.

Probably the cheese mite. (Country gentleman. Mar. 18, 1897. 62 : 217[26])

Hams infested with quantities of animated dust have probably been attacked by the cheese mite, *Tyroglyphus siro* Linn, several remedies are given.

Canker worms. (Country gentleman. Ap. 1, 1897. 62 : 248[18])

Work of canker worms, *Anisopteryx* [*Paleacrita*] *vernata* or *Anisopteryx* [*Alsophila*] *pometaria* is recognized and remedies indicated.

Apple tree borers. (Country gentleman. Ap. 22, 1897. 62 : 307[33])

Habits of *Saperda candida* and *Chrysobothris femorata* are given and several remedies advised.

A grasshopper. (Country gentleman. Ap. 29, 1897. 62 : 326[38])

Eggs of the angular winged katydid, *Microcentrum retinervis*, are identified and several curious places for oviposition named.

Cow horn fly. (Country gentleman. May 6, 1897. 62 : 350[16])

Several remedies are given for *Haematobia serrata*.

Elm and apple tree pests. (Country gentleman. May 20, 1897. 62 : 390[17])

Remedies for the elm leaf beetle and preventives of apple tree borers are described.

Tent caterpillar. (Country gentleman. May 20, 1897. 62 : 390[24])

Clisiocampa americana is identified.

May beetle. (Country gentleman. May 20, 1897. 62 : 390[27])

Injuries to a lawn are probably caused by white grubs. Kerosene emulsion is recommended.

Strawberries and indian corn. (Country gentleman. May 20, 1897. 62 : 394[17])

Cut worms are probably attacking the strawberries and the boll worm, *Heliothis armiger*, is injuring the corn. Remedies are indicated.

Elm tree beetle. (Country gentleman. May 27, 1897. 62 : 406[35])

Method of spraying elms is briefly described.

Grasshoppers. (Country gentleman. June 10, 1897. 62 : 446[18])

Allowing fowls to run in garden, or poisoned bran mash is recommended.

Apple woolly louse. (Country gentleman. June 10, 1897. 62 : 454[24])

Schizoneura lanigera is identified and remedies indicated.

Arsenic and animals. (Country gentleman. June 10, 1897. 62 : 454[33])

Drippings from properly sprayed trees harmless to animals eating the grass or hay from beneath.

Apple tree aphis. (Country gentleman. June 17 : 1897. 62 : 470[18])

Attack by *Aphis mali* briefly noticed.

Carpet beetles. (Country gentleman. June 17, 1897. 62 : 470[22])

Anthrenus scrophulariae abundant on flowers at this time.

Grain weevil. (Country gentleman. June 24, 1897. 62 : 486[25])

No plant will protect grain from weevil, but a French agricultural paper states that aniseed will attract weevils from grain and kill them.

Wire worms. (Country gentleman. June 24, 1897. 62 : 486[27])

Carbon bisulfid or kerosene emulsion is recommended for wire worms at roots of cabbages.

The long sting. (Country gentleman. July 1, 1897. 62 : 506[33])

Gives a brief popular account of *Thalessa atrata*.

Army worm. (Country gentleman. July 1, 1897. 62 : 506[42])

Army worm eggs do not occur in grass seed. Repetition of last year's attack need not be feared.

Honey dew. (Country gentleman. July 8, 1897. 62 : 526[15])

Nature of honey dew on maple leaves is briefly explained.

Cherry tree Myzus. (Country gentleman. July 8, 1897. 62 : 526[26])

Cherry trees show severe attack by *Myzus cerasi*. Remedies are indicated.

Scurfy bark louse. (Country gentleman. July 8, 1897. 62 : 526[28])

Chionaspis furfurus is identified and remedies given.

Plant lice. (Country gentleman. July 8, 1897. 62 : 526[35])

General directions are given for controlling aphids.

San José scale. (Country gentleman. July 8, 1897. 62 : 533[11])

General article giving in brief form what is known of *Aspidiotus perniciosus*.

Elm leaf beetle. (Argus [Albany]. July 10, 1897. p. 17)

Galerucella luteola is the chief depredator on elms and should be promptly suppressed.

Not the gypsy moth. (Country gentleman. July 15, 1897. 62 : 558[11])

Apple tree and forest tent caterpillars mistaken for the gypsy moth.

Chinch bug. (Country gentleman July 15, 1897. 62 : 558[14])

General directions are given for arresting an attack by *Blissus leucopterus*.

Subterranean grubs. (Country gentleman. Aug. 26, 1897. 62 : 666[47])

Kerosene emulsion is recommended for treating *Lachnosterna* species or *Allorhina nitida*.

San José scale. (Country gentleman. Aug. 26, 1897. 62 : 667[12])

Refers to previous article for remedies.

Tussock moth. (Country gentleman. Sep. 2, 1897. 62 : 686[22])

Notes attack on plum by *Halisidota caryae*.

Insects and fruit. (Country gentleman. Sep. 2, 1897. 62 : 686[24])

Gives suggestions for decreasing injury to fruits by wasps.

Urocerus albicornis. (Country gentleman. Sep. 9, 1897. 62 : 707[13])

Brief popular account of this interesting horn tail.

A plague of flies. (Country gentleman. Oct. 14, 1897. 62 : 806[46]–7[12])

May be the cluster fly, *Pollenia rudis*. Screens and pyrethrum are recommended.

Pine borer. (Country gentleman. Nov. 4, 1897. 62 : 867[27])

Work of the borer is described and commented upon.

Pine borer. (Country gentleman. Nov. 11, 1897. 62 : 887[16])

From examples sent it is identified as *Harmonia* [*Parharmonia*] *pini* Kellet.

Fall canker worm and its eggs. (Country gentleman. Dec. 16, 1897. 62 : 986[27])

Life history and habits of the fall canker worm, *Anisopteryx* [*Alsophila*] *pometaria* are briefly given and remedies indicated.

12th report on the injurious and other insects of the state of New York for the year 1896. Albany, University of the State of New York, 1897. [Issued Ap. 22, 1898] 246 p. (159–404), 15 pl., 10 fig. Also as report of the state entomologist for the year 1896; New York state museum. 50th annual report, for the year 1896. Albany, University of the State of New York. 1897. p. 159, 15 pl., 10 fig.

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13th report on the injurious and other insects of the state of New York, for the year 1897. Albany, University of the State of New York, 1898. [Issued Feb. 18, 1899]. 64 p., 2 pl, 3 fig. Also as Report of the state entomologist for the year 1897. New York state museum, 51st annual report, for the year 1897. Albany, University of the State of New York. 1898, p. 151.

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Index to entomologist's reports 1-13 and to supplement of 14

This index is an extension, with modifications, of Dr Lintner's index to reports 1-10. References are given under preferred scientific names. The synonyms used in the text of preceding reports are placed in curves after the name or where there is simply a change in genus or species, the old term alone is given, preceded in the case of specific names by the initial for the genus. The synonymy given applies only to the publications indexed. In the case of reports 13 and 14 the superior figures tell the exact place on the page in ninths; e. g. 13:342^{7}, means 13th report, page 342 beginning in the seventh ninth of the page, i. e. a little over two thirds of the way down.

Aaron, S. F. cited, 2:203.
Abbot, John, and Smith, J. E., *Natural history of the rarer lepidopterous insects of Georgia* cited, 2: 68; 4:51; 5:174, 179, 183; 7:225; 12:183; 13:342^{7}.
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Academy of natural sciences of Philadelphia, Entomological section, *Monthly proceedings* cited, 1:247; *Journal* cited, 1:211, 232; 2:110, 125, 132, 139; 3:133; 4:93, 128; 5:242; 8:152; 10:432; *Proceedings* cited, 1:127, 151, 157, 253; 2:102, 148, 168; 3:133; 4:101, 155; 5:213, 215, 234; 7:225, 255; 9:299, 300; 10:408, 414; 11:152, 156, 157, 160, 197, 240; 12:183.
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Errata to entomologist's reports 1-13 and to supplement of 14

The following are errors detected since the publication of the individual reports. Many of them were corrected by Dr Lintner on printed slips or in a subsequent report, others have been found in working on the index to his publications. If desired, these may be inserted as slips in the respective reports.

Additional errata in first report

Page 40, line 15, for *Sylvanus* read *Silvanus.*
Page 42, line 24, for Tenthridinidae read Tenthredinidae.
Page 42, line 10 from bottom, take out the comma after *cerasi.*
Page 57, line 21 from bottom, for tiers read tyers.
Page 80, lines 5, 6, 7, 17, take out the period after the species.
Page 120, line 7 from bottom, for *Cicia* read *Cicer.*
Page 156, line 4 from bottom, for *pinifoliae* read *pinifoliella.*
Page 160, line 29, for BUCCULATRIX read BUCCULATRICIS.
Page 181, line 29, for 107 read 170.
Page 191, line 1, for BIBLIOGRAPH read BIBLIOGRAPHY.
Page 215, line 35, change the comma to a period.
Page 226, line 10 from bottom, after different, insert: class of the.
Page 227, lines 15 and 16 from bottom, for p. 682 *et seq.* read p. 477-84.
Page 247, line 16, take out the comma after *opimus.*
Page 264, line 6, for 183 read 1834.
Page 268-9, for *Pentatomoidae* read *Pentatomoidea.*
Page 271, line 26, for 324 read 124.
Page 272, line 2, for *ribes* read *ribis.*
Page 296, line 22, read two of the three bound volumes.
Page 297, line 25, for *caprea* read *capraea.*
Page 297, line 5 from bottom, for *togata* read *tergata.*
Page 300, line 15, for *Telamone* read *Telamona,* and for *Heleochara* read *Helochara.*
Page 302, line 5, for 264 read 254.
Page 314, last line, for *Cyniphidae* read *Cynipidae.*
Page 329, line 28, for pomotellus read pometellus.
Page 330, line 12, for *fuscata* read *fuscatus.*
Page 330, line 16, for (Rhagolites) read (Rhagoletis).

Page 330, line 2 from bottom, for ix read x.
Page 331, line 3, for *aculifer* read *aculiferus*.
Page 336, line 6, for *Daimia* read *Daimio*.
Page 343, line 14 from bottom, for *marcellaria* read *macellaria*.
Page of errata, omit the first line.

Additional errata in second report

Page xii, line 16, for *raeus* read *reus*.
Page 5, line 11, for *Pristophora* read *Pristiphora*.
Page 23, line 13 from bottom, for *Ampelophila* read *Drosophila*.
Page 31, line 3 from bottom, for *Pscyche* read *Psyche*.
Page 46, line 16, for Mille read Miller.
Page 57, line 3, for Harris read (Harris).
Page 57, line 7, for 1834 read 1839.
Page 57, line 20, for 487 read 497.
Page 69, line 10, for Psyche read Papilio.
Page 74, line 32, for *Thyriodopteryx* read *Thyridopteryx*.
Page 77, line 5, for *Cupili-* read *Cupuli-*.
Page 94, line 2, for Grote read Grote.
Page 97, line 4, from bottom, for Can. read Ont.
Page 98, line 8 from bottom, for honey-locust read common locust.
Page 101, line 3, same as above.
Page 101, line 5, for *Spiraae* read *Spiraea*.
Page 102, line 31, for 169 read 171.
Page 119, line 14, for on read in.
Page 119, line 18, for where read when.
Page 121, line 13, for Mich. read Ill.
Page 125, line 12, for *Sciari* read *Sciara*.
Page 136, line 17, for BANDI read BAUDI.
Page 140, line 5, for Ryhnchoporid read Rhynchophorid.
Page 140, line 26, for pora read phora.
Page 142, line 2, for (Horn) read Horn.
Page 146, line 24, for *chistes* read *chistus*.
Page 152, line 33, for *Cimex lectularia* read *Cimex lectularius*.
Page 166, line 15 from bottom, for *Euchetes* read *Euchaetes*.
Page 168, line 7, for 1860 read 1862.
Page 180, line 2, for Fitch read (Fitch).
Page 182, line 10, for longer read shorter.
Page 199, line 9, for *Pscocidae* read *Psocidae*.
Page 203, line 21, take out BURG.
Page 207, line 20 and under figures, for *purpurascens* read *purpurescens*.
Page 213, line 5 from bottom, for *Corydalus* read *Corydalis*.
Page 235, line 6, take out the first with.
Page 241, line 2 from bottom, for *Anophales* read *Anopheles*.

Errata in third report

Page 116, line 6, for *Anaitis* read *Anatis.*
Page 123, line 25, for Hcmpitera read Hemiptera.
Page 138, line 16 from bottom, for NUTTALI read NUTTALLI.
Page 138, line 7 from bottom, for DACTOLYPIUS read DACTYLOPIUS.
Page 140, line 10, for chaleid *Copodosoma truncatella* read chalcid *Copidosoma truncatellum.*
Page 140, line 18, for *Irus* read *strigosa.*
Page 141, line 8, for *fusciventris* read *fasciventris.*
Page 142, line 3 from bottom, for 260 read 269, [continued on page 289].
Page 144, line 7, for *picivorous* read *picivorus.*
Page 153, line 24, for *Euschistes* read *Euschistus.*
Page 153, line 25, for *Phylira* read *Phyllira.*

Additional errata in fourth report

Page 50, lines 4, 9, 13, 14, 21, for *definata* read *definita.*
Page 67, line 25, for Daniels read Daniell.
Page 71, lines 20 and 21, for auxiliary read first.
Page 72, lines 18 and 41, for Wager read Waga.
Page 73, line 7, after p. 152 add (of Synop. Br. Ins.).
Page 104, bottom line, for back read bark.
Page 115, line 12, for COOK read COOKE.
Page 137, line 7, for *hypophleas* read *hypophlaeas.*
Page 139, line 10, for *Cramer* read (*Cramer*).
Page 151, line 9, for 41, 44 read 41-44.
Page 154, line 8 from bottom, for *tamariscis* read *tamarisci.*
Page 162, line 2 from bottom, for *geminata* read *gemmata.*
Page 180, line 18 from bottom, for *Periplanata* read *Periplaneta.*
Page 197, line 14 from bottom, for *Tenthridinae* read *Tenthredinae.*
Page 206, line 3, for *crocotaria* read *crocataria.*
Page 207, line 12, for Thung. read Thunb.
Page 207, line 16 from bottom, for *vestata* read *vestita.*
Page 208, line 8 from bottom, for *obtusa* read *obtrusa.*

Additional errata in fifth report

Page 148, line 5, for zanthomelaena read xanthomelaena.
Page 170, line 8, for Dallas read (Dallas).
Page 174, line 18, transfer comma from after *choerocampa* to before.
Page 193, line 3, for *Adolecephala* read *Adelocephala.*
Page 199, line 7 from bottom, for *Ceratocampadae* read *Ceratocampidae.*
Page 201, line 3, for Hist. read Sci.
Page 213, line 4, for Boisdaval read Boisduval.
Page 219, line 20, for ac ss read across.
Page 224, line 9 from bottom, for L. A. Howard read L. O. Howard.

Page 224, line 3 from bottom, and page 225, line 13, for Boder read Bodee.
Page 231, omit first and third paragraphs, relating to tobacco feeding.
Page 232, line 14 from bottom, for *basilis* read *basalis*.
Page 245, line 25, for *quadrinota* read *quadrinotata*.
Page 257, line 16, for Guer. read Guér.
Page 266, line 16 and under figure, for *pinifolii* read *pinifoliae*.
Page 268, line 15, for subjec read subject.
Page 268, line 23, for *fraterna* read *fraternus*.
Page 271, line 4 from bottom, for *Blaphar-* read *Blephar-*.
Page 282, line 2, for *Trypetdiae* read *Trypetidae*.
Page 283, line 3 from bottom, for more read less.
Page 295, line 19, for Raf. read (Raf.).
Page 300, line 9 from bottom, for *Chrysomelidae* read *Bruchidae*.
Page 303, line 18, for *Tachus* read *Tachys*.
Page 303, line 19, for *Homolota* read *Homalota*.
Page 313, bottom line, for he read the.
Page 320, last line, for *hyalinatalis* read *hyalinata*.
Page 326, line 19, for Husted read Huested.

Additional errata in sixth report

Page 120, line 2 from bottom, for Henshaw read Dimmock.
Page 146, line 23, precede the line with—it and.
Page 151, lines 12 and 16, *longipennis* and *Columbia* are the same.
Page 170, line 26, for *Anthomenus* read *Anchomenus*.
Page 176, line 23, for *pilisicollis* read *pilosicollis*.
Page 188, line 20, for *confusor* read *confusus*.
Page 189, line 2, for Linn. read (Linn.) and for DeGeer read (DeGeer).
Page 189, line 3, for CROUSE read CROWE.

Additional errata in seventh report

Page 201, line 12, for PHYTOOMYZA read PHYTOMYZA.
Page 229, line 25, for *abbreviatella* read *abbreviata*.
Page 250, line 4 from bottom, for ventral surface read dorsal segment.
Page 279, line 19, for (Boheman) read Boheman.
Page 285, line 20, for Syn. read Syst.
Page 296, line 14 from bottom, for Magazine read Weekly.
Page 297, line 5, for MCNEAL read MCNEIL.
Page 297, line 8, for ii read i.
Page 320, line 6, for G. F. Pierce read G. T. Pierce.
Page 325, line 10 from bottom, for *Periplanata* read *Periplaneta*.
Page 334, line 13, for *pygmeus* read *pygmaeus*.
Page 357, line 1, for (C) read (B).
Page 360, line 12 from bottom, for Oliv. read (Oliv.).
Page 367, lines 29 and 30, for *Cuterabra* read *Cuterebra*.

Page 369, line 11, for *Amblycomorpha* read *Amblycorypha.*
Page 371, line 10, for *Daimia* read *Daimio.*
Page 375, lines 29 and 30, for Xylina lambda (*Fabr.*) var. Thaxteri *Grote* read Xylina Thaxteri *Grote* var. lambda (*Fabr.*).
Page 381, line 1, for (D) read (C).
Page 382, line 25, for *Cuterabra* read *Cuterebra.*
Page 384, line 17, for Harris read (DeGeer).
Page 384, line 19, for *Amblycomorpha* read *Amblycorypha.*

Additional errata in eighth report

Page 106, line 31, for *C. pyrivora* read *D. pyrivora.*
Page 163, omit last line.
Page 167, line 13, for *pygmeus* read *pygmaeus.*
Page 238, line 8 from bottom, for *Masicora* read *Masicera.*
Page 275, line 13, for *Chalciddiae* read *Chalcididae.*
Page 289, line 4, for *definata* read *definita.*
Page 291, lines 3 and 8 from bottom, for *Deshaiziana* read *Deshaisiana.*
Page 298, line 7, for *Helophilus* read *Hydrophilus.*
Page 300, line 12 from bottom, for *Chlosops* read *Chlorops.*

Additional errata in ninth report

Page 296, line 8, for pelargium read pelargonium.
Page 296, line 15, for *Garpocapsa* read *Carpocapsa.*
Page 313, line 15, for *Chlorops* read *Chloropisca.*
Page 343, line 12, for 1844 read 1884.
Page 450, line 12, for *Gonopteryx* read *Gonoptera.*
Page 455, line 4 from bottom, for *Lecontii* read *Lecontei.*
Page 456, last line, for *Schlagaeri* read *Schlaegeri.*
Page 461, line 14, for *Xylocapa* read *Xylocopa.*
Page 462, line 2 from bottom, for *fulvipes* read *fuscipes.*

Additional errata in 10th report

Page 403, line 21, for *Africa* read *Australia* and for Ezra P. read Frazer S.
Page 406, in explanation of figure 8, for RUFICOLIS read RUFICOLLIS.
Page 411, line 7, for 1894 read 1844.
Page 430, line 5 from bottom, for Hist. read Sci.
Page 443, line 10, for *verruculosa* read *verruculatus.*
Page 477, line 10 from bottom, for GUIER read FIGUIER.
Page 483, line 23, for nigrinodes read nigrinodis.
Page 512, line 27, for Linn. read (Linn.).
Page 515, line 7, for JOHN read JULIUS.
Page 516, line 10, for LEFLER read LAFLER.
Page 518, line 11 from bottom, for *tenebrosus* read *tenebricosus.*
Page 526, line 8 from bottom, for (*Fabr.*) read (*Linn.*).

Page 528, line 2, for *Linn.* read (*Linn.*).
Page 528, line 18, for Odontata read Odontota.
Page 531, line 19, for *Harris* read (*DeGeer*).
Page 531, line 3 from bottom, for (*DeGeer*) read *DeGeer.*

Additional errata in 11th report

Page 109, next to last line, for p. 240 read p. 249.
Page 121, line 12 from bottom, for *indiginella* read *indigenella.*
Page 238, line 15 from bottom, for *Brachnemurus* read *Brachynemurus.*
Page 266, line 5 from bottom, for pyricciana read pyricolana.
Page 272, line 5, for cyaneipes read cyanipes.
Page 284, line 2, for 1894 read 1895.

Additional errata in 12th report

Page 243, line 16, for *trinlieata* read *trilineata.*
Page 361, line 13, for *nigra* read *niger.*
Page 362, lines 19 and 20, for J. A. HOUCK read J. H. HOUCK.

Erratum in 13th report

Page 351, line 2 from bottom, for *lineatus* read *linearis.*

Errata in supplement to 14th report

Page 317, lines 3-4, for [*Prionodus*] read [*Prionidus*].
Page 318, line 29, for [*Glyphina*] read [*Colopha*].
Page 321, line 16, *Lycaena lotis* is not a var. of *Cyaniris pseudargiolus.*
Page 321, line 10 from bottom, for *populata* read *populatum.*
Page 331, line 11 from bottom, for *Chortophila* [*Phorbia*] *floccosa* read *Chortophila floccosa* [*Phorbia brassicae*].
Page 333, line 16 from bottom, for [*Prionodus*] read [*Prionidus*].
Page 339, line 6, for [*Prionodus*] read [*Prionidus*].
Page 354, line 16, take out [*Glyphina*].
Page 368, line 6, for beetle read bug.
Page 380, line 13 from bottom, for *ruficaudus* read *ruficaudis.*

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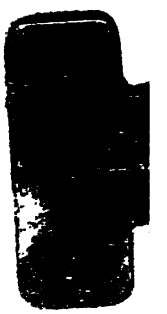
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